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Antiquity

A QUARTERLY REVIEW OF ARCHAEOLOGY

Edited by Glyn Daniel

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Antiquity

VOL. XXXIV No. 136 DECEMBER 1960

Editorial

PLATE XXIX

IN the last few months Her Majesty's Stationery Office has published two books of great merit, importance and worth. The first is *Excavations on Defence Sites* 1939–1945: *I, Mainly Neolithic—Bronze Age*, by Professor W. F. Grimes; and the second is *A Matter of Time* by the Royal Commission on Historical Monuments (England). The details of these books will be found in the Book Chronicle (p. 294). *Excavations on Defence Sites* is the third in the series of archaeological reports issued by the Ministry of Works. The first volume in that series was *Excavations at Jarlshof*, by J. R. C. Hamilton; published in 1957, it was reviewed here by Sir Mortimer Wheeler in an article entitled ' Civil Service Archaeology ' (ANTIQUITY, 1957, 234); the second volume was *Excavations at Clausentum, Southampton*, 1951–9, by Mrs M. Aylwin Cotton and P. O. Gathercole, reviewed in these pages by Lady Fox (ANTIQUITY, 1959, 149).

The third volume is the first of three which will deal with the excavation between 1939 and 1945 of some of the antiquities which were faced with destruction in the course of engineering and other activities relating to the Second World War. The two succeeding volumes will deal with Iron Age and medieval sites respectively. The present volume, as its author says, while dealing mainly with Neolithic and Bronze Age sites, does not keep to this chronological limit consistently, and rightly so. Thus the account of Burn Ground and Charmy Down deal with all the evidences of ancient occupation found there. The eight main chapters describe the Saltway Barn Long Barrow, the Burn Ground, Hampnett sites, two barrows on Chedworth Down, the henge monument and burial rings at Stanton Harcourt, the Salakee Down Chambered Cairn on St Mary's in the Isles of Scilly, finds from Mixnam's Pit at Thorpe in Surrey, Neolithic Pits at Heathrow, Middlesex, and Charmy Down, near Bath.

This is a book which all archaeologists and archaeological libraries and museums will have to possess. It is a fine book and reflects great credit on the author and the printers, William Clowes and Sons. A very special word of praise, and unstinting praise, must be given to the maps, drawings and line diagrams with which the book is lavishly illustrated. They are all the work of Professor Grimes himself, and to say this in itself is to say a great deal, as all who know his high standard of draughtsmanship will appreciate. The history of archaeological draughtsmanship in Britain has not yet been written, but when it is, Grimes's work will rank very high in that account. It is one of the most amusing, if esoteric, intellectual quiz-games at the moment, to show an archaeologist a series of plans and sketches and see if he can distinguish a Heywood Sumner, spot a Grimes, and sort out Piggotts, Grinsells, and Wheelers.

A Matter of Time is an archaeological survey of the river gravels of England, prepared by the Royal Commission on Historical Monuments (England), and written mainly, we are told (is this the first moment that the Commission has, very wisely, broken its anonymity rule?) by H. C. Bowen and R. M. Butler of the Commission's staff. Four years ago the Commission undertook the new task of recording prehistoric and other early earthworks threatened with destruction by afforestation, opencast mining, and, above all, improved methods of agriculture. A very special problem arising from this commitment was presented by river gravels. In the last fifteen to twenty years it has become increasingly clear that the gravel terraces of the larger rivers of England were almost as thickly settled in prehistoric and Roman times as were the chalk downs. The total destruction of these early sites is threatened in many areas by gravel digging. The Royal Commission thought, very properly, that threats to sites on these gravels can be dealt with only by the anticipatory reconnaisance and vigilance of local archaeologists, and decided to produce for such local amateur and professional archaeologists (and at a modest price—this guide is remarkable value at 10*s.* 6*d.*), a guide to the types of sites to be found, together with a list of excavated sites, maps, diagrams and a bibliography. The result is *A Matter of Time*, which, beginning with an account of the history of archaeological air photography in relation to crop and soil marks on gravel, proceeds to a description of the various types of marks seen, classifying them into Enclosures, Circles, Cursuses, Pit Alignments, and Ridges. This is a well planned and well achieved book. Like *Excavations on Defence Sites*, it has been a long time in the press—too long; but the manifest inefficiencies and delays of Her Majesty's Stationery Office must not be visited on the Ministry of Works or the Royal Commission on Historical Monuments (England). The Select Committee on Estimates should however, take cognizance of the working of a department of State which produces at the end of 1959 a book whose preface is dated 1957. Commercial publishers seem, at the present day, to have no difficulty in getting out books within ten to twelve months of receipt of completed manuscript. We suspect that many of the criticisms of the Royal Commissions voiced in this journal and many other places in the last few months are really criticisms of the Stationery Office. Their printing presses grind exceedingly well, as *Excavations on Defence Sites* and *A Matter of Time* show us, but they grind exceeding slow.

The title of the Royal Commission handbook, which is an unusually fresh and journalistic one to come from a Royal Commission office, is deliberate and apposite. The closing words of the book emphasize the urgent immediacy of the problem of gravel digging and site destruction. 'But time is short,' the report says, 'for, as the demand for gravel increases and more efficient machinery is introduced, the process of destruction becomes faster and more thorough. Survey and excavation achieved now will disclose information about the settlement of ancient Britain and its peoples which might otherwise be irretrievably lost.' We hope these wise words will be pondered over and the whole book read, not only by all professional and amateur archaeologists but also by all those who, in and out of Parliament and Whitehall, are at present thinking hard about the future State organization of archaeology in Great Britain.

In his preface to *A Matter of Time* the Marquess of Salisbury writes: 'As will be abundantly clear to the reader of this survey, the whole enterprise could not have been begun without the remarkable photographs taken by Dr St Joseph.' Nineteen of the thirty-two photographs in this book were taken by Dr St Joseph, many of them during sorties made specially at the request of the Royal Commission and printed in this survey for the first time. Readers of ANTIQUITY will not need to be reminded of the great work in archaeological air photo reconnaissance and interpretation done by Kenneth St Joseph from 1942 onwards. On him has fallen the mantle of Crawford and Allen, and, Elisha to those two departed

Elijahs, he wears it with distinction. His annual surveys have become one of our main primary sources of information about the ancient cultural landscape of Great Britain. *A Matter of Time* had to be completed and sent to the press before the results of St Joseph's 1959 survey could be studied. (And yet only out in late 1960. Why? Why, Her Majesty's Stationery Office? Why, Messrs John Wright and Sons, printers at Bristol?) The year 1959 with its fine summer was a great year for spotting crop marks; the sites found in this country must, we are told, ' run into thousands ', and no year, since St Joseph's surveys began, has yielded discoveries in such number and variety. Three new henges were found, for example, and new examples of cursuses in the valleys of the Thames, east of Reading, and in the Stour in Suffolk.

In the concluding remarks and observations of *A Matter of Time* the Royal Commission says: ' Undoubtedly much urgent work remains to be done in the field archaeology of the river gravels of England. The requirement for continuing air survey and air photography, at increased tempo, is self evident.' It is good to know that the Committee on Aerial Photography in the University of Cambridge has been given £30,000 over the next five years by the Nuffield Foundation for continuing air survey and air photography, and, although the Editor of ANTIQUITY is a member of this Committee, it does not, we hope, preclude him from saying what a splendid bequest this is, and looking forward with eager anticipation to the results which Dr St Joseph will achieve, some of them, we hope, to be presented to readers of this journal.

But one man cannot do everything, and any man, subject as he must be to the rigours of disease and the dangers of motoring, is mortal. We who in British archaeology can proudly write down the names of Crawford, Hamshaw Thomas, Allen, St Joseph, John Bradford, and D. N. Riley—to mention only those who come immediately to mind—as pioneers and practitioners of air archaeology, still need to recruit new men for the specialized and intriguing and not difficult task of photographing the past from the air. We need men who can take good oblique photographs and also overlapping verticals which can be studied stereoscopically. The Government's vertical survey, made at the end of the last war, now available to serious accredited students at the Ministry of Housing and Local Government is one thing; but it was not, naturally enough, done for archaeological purposes. We now need the efforts of St Joseph and the Cambridge Committee expanded to achieve what Crawford dreamed of—a complete and total archaeological survey of Britain from the air. Can this not be begun in the near future? Is its achievement also not a matter of time?

These words are being written in the bright September sunshine on the terrace of a café in Saint-Véran in the French Alps (Saint-Véran in the arrondissement of Briançon in the Hautes-Alpes; there is another village of the same name in the Côtes-du-Nord). Saint-Véran is the highest village in Europe and it is a surprise to those amateurs of records who find *The Guinness Book of Records* such an entertaining bedside book, that the highest European village is in France (just as the highest road in Europe is the Col d'Izère in France: it is 2770 m. and the Stelvio is only 2760). The height of Saint-Véran is given in guide books as between 1990 and 2040 m.; it is a village on a slope and perhaps the best datum to take is that the top of the church belfry is a trigonometrical point and is 2071 m. This picturesque village, well over 6000 ft. up in the Alps (and this is a fair figure for those who are not prepared to sit on the trigonometrical point on the belfry), has, according to that Bible of tourism, the *Guide Michelin*, 422 inhabitants. Its wooden chalets, haylofts, granaries and ovens are set in five separate groups to combat fire risks

and in each group the houses are set *en espalier* to catch all the available sunshine. The area was occupied as early as the Middle Bronze Age (*Dictionnaire Archéologique de la Gaule*, II, 595).

We walked through the village, noting the stocks of wood and hay stored underneath the houses and the way in which each house was a unit of animal quarters, fuel and forage store, and house for human beings. But there were no animals anywhere to be seen; and yet from the lingering fresh sweet-sour smell of cows and the *gaz de fumier* rising from the newly rotting dung heaps, it was obvious the animals must be somewhere. Consumed with curiosity we enquired at the post office-cum-village shop (which sold everything from skis and suncream to tinned tunny and *pâté de foie gras*). The answer was a simple one, and yet not one that appears in the classic studies of transhumance like those of Vidal de la Blache, Jean Brunhes, and Pierres Deffontaines. Here was not normal transhumance or even ' inverted transhumance ' in the terminology of the human geographers, and certainly not the complicated fourfold transhumantic rhythm so brilliantly described by Jean Brunhes in the famous Chapter VII of his *Géographie Humaine*, where he seems to give the inhabitants of the Val d'Anniviers no peace in their complicated movements from pasture to pasture.

The fascination of Saint-Véran is that it is in itself a *montagnette*, a *mayen*, a *stavolo*; but one that is permanently occupied. Here is the *Hafod uchaf* which is never deserted. Like a Finnish farm, when the snows come, the animals and humans bed down—the animals to sleep, the humans to work precious stones and to carve wood. In the spring the sheep are taken up to the summer pastures on higher slopes, and return in the autumn from their long transhumance (PLATE XXIX (*a*)). The cattle of Saint-Véran on the other hand are taken out by day *en masse* and pastured on the high alps. Curious, we walked out from Saint-Véran up the valley towards the Chapel of our Lady of Clausis, where, on 16 July each year, the devout from the French parishes of the Queyras, and the Italians from the Varaita meet to celebrate the Festival of *Notre Dâme du Mont Carmel*. We walked for a mile and a half along a road past quarries and rock cuttings from which came the green marble used to make the base of the tomb of Napoleon I in Les Invalides in Paris. And, suddenly, rounding a corner, there were a hundred and fifty cows grazing in the high pastures, guarded by an old crone knitting and nodding to the music of the cow bells.

It seemed, in a moment, living prehistory. We ought, in our interpretation of the prehistoric archaeological material of the Neolithic and Chalcolithic, at least, and probably the Bronze Age as a whole, to think more and more in terms of the semi-pastoral, semi-nomadic transhumantic patterns which we know to exist at the present day in so many parts of Mediterranean Europe (PLATE XXIX (*b*)). Colonel Louis has emphasized this point in his studies of the prehistory of the Languedoc. It is possible that the ' dolmens ' on the *causses* of southern France are the tombs of transhumantics who lived in the winter in places like Fontbouïsse. And is it not more than possible that the *drailles* are transhumance roads dating from at least 2500 B.C.? Here is a line of research for archaeologists and historians interested in the economy and ecology of the 3rd millennium B.C. in Western and Mediterranean Europe.

We have been asked by many readers of ANTIQUITY to tell them who designed the fleuron that we have been using to separate paragraphs in the Editorial since 1959. It was devised by Sebastian Carter, an undergraduate of King's College, Cambridge, and son of Will Carter of the Rampant Lions Press, Cambridge, and cut by the Monotype Corpora-

tion, Ltd. It is, as most British archaeologists will recognize at once, based on the Presaddfed Burial Chamber in Anglesey.

Finally, two notes: one of apology and one of welcome. In the Editorial of the September number of ANTIQUITY (p. 163), by an unfortunate printer's error which crept into the final page proofs after they were passed, we were made to say ' We believe that, even if the Archaeology Division remains . . . ', when what was meant and passed for press was ' We believe that, even if the Commission system remains . . . '. The printers, wrapped in a white sheet, join us in apologizing to all who have been concerned and confused by this sentence, and indeed we stress our hope that there is no possibility, however remote, of the Archaeology Division of the Ordnance Survey disappearing. It does splendid work, and should be visited by all professional archaeologists who want to know how best to make use of its resources. We shall comment again on its work when the period map of Early Iron Age Britain is published early next year. The Editor would regard it as a personal favour if all librarians and private subscribers would amend p. 163 of the last number of ANTIQUITY without delay, and so give the lie to word-spinning Plautus: *Stultus es, qui facta infecta facere verbis postulas.*

The word of welcome is to the many new subscribers—over three hundred of them—to ANTIQUITY during 1960. We hope the variety and content of the articles and notes printed during 1960 pleases them. Among articles promised or commissioned for 1961 are Professor Hawkes's *Reflections on the British Iron Age*, Charles Green on *East Anglian Coastline Levels in Roman Times*, Claudio Vita-Finzi on *Tripolitanian Dams*, H. W. Catling on *A New Naue II Sword from Cyprus*, H. W. Barker on *The British Museum and Carbon-14 dating*, Dr Douglas Tushingham on *Canadian Archaeology*, Colonel Afonzo do Paço on *The Archaeology of the Battle of Aljubarrotta*, Professor R. J. C. Atkinson on *Neolithic Engineering*, and an article to which we all look forward with very special interest in which Dr Margaret Murray looks back at some aspects of her long life in archaeology. There is perhaps a particularly Eastern European flavour to this current issue which has three articles dealing with matters of archaeology behind the ' Iron Curtain ' of the politicians. We welcome this, and we hope in due course to have an article on the new Russian excavations at Anau.

Book Chronicle

We include here books which have been received for review, or books of importance not received for review, of which we have recently been informed. We welcome information about books, particularly in languages other than English and American, of interest to readers of ANTIQUITY. *The listing of a book in this chronicle does not preclude its review in* ANTIQUITY.

CRETAN SEALS. *By* V. E. G. KENNA. *pp.* 166, 23 *plates*, 172 *text figures. Oxford, the Clarendon Press*, 1960. £5 5*s*. Has also a catalogue of the Minoan Gems in the Ashmolean Museum.

DIGGING FOR HISTORY. *By* EDWARD BACON. *pp.* 320, 58 *plates. London, A. & C. Black*, 1960. 50*s*. A Survey of Recent World Archaeological Discoveries 1945–1959.

[*continued on p.* 265.

A Byzantine Palace at Apollonia (Cyrenaica)

by RICHARD GOODCHILD

Mr R. G. Goodchild has been working in Libyan archaeology since 1946 *and was Controller of Antiquities in Cyrenaica from* 1953 *to* 1960. *He is now Director of the new British Institute of History and Archaeology in East Africa, and will be returning to Libya at the termination of his present temporary appointment in East Africa. He here discusses a late 5th or early 6th century* A.D. *palace at Apollonia excavated by the Department of Antiquities in* 1959–60.

CYRENAICA, the eastern province of modern Libya, is rich in Byzantine monuments; but many of them, owing to their collapsed condition, do not immediately attract notice, and in such cases extensive programmes of excavation and *anastylosis*[1] are usually necessary to make these monuments entirely intelligible. The Beechey brothers, who in 1821–2 made the first accurate surveys of the cities of the ancient Pentapolis[2] found the sites in better condition than they are today and were able, by diligent observation, to identify a number of churches. Their successors, prior to the Italian occupation of 1911, were mainly interested in the Greek and early Roman antiquities of the country.[3]

A remarkable amount of work was achieved during the thirty years (1912–42) of Italian colonial archaeology in Libya, but the heavy commitment of excavation and *anastylosis* in the Sanctuary and Agora areas of Cyrene absorbed a large part of the available means. In consequence only two Christian churches were excavated and consolidated, one at Apollonia in 1920–1 by E. Ghislanzoni, and the other at Ptolemais in 1935–8 by G. Caputo. Both have been summarily described, more recently, by Professor Pietro Romanelli.[4]

Since 1954 the Cyrenaican Department of Antiquities has been able to devote considerable attention to the Byzantine monuments in the cities and countryside. Two churches have been excavated at Cyrene, two at Apollonia, and one at Teuchira. The small rural village of *Theodorias* (Gasr el-Lebia) has also yielded a church with mosaics of exceptional artistic and historical interest.[5] A full documentation of these and other Cyrenaican churches, both excavated and unexcavated, is being prepared in collaboration with the British School at Rome, and will eventually be published by Mr J. B. Ward Perkins and the present writer.

[1] The words ' reconstruction ' and ' restoration ' arouse such alarm in Britain that I prefer to use here a more innocent term. *Anastylosis* implies the re-erection of those fallen elements (walls as well as columns) the positions and elevations of which are certain and the materials largely surviving.

[2] F. W. and H. W. Beechey, *Proceedings of the Expedition to explore the northern coast of Africa . . . in* 1821–22 (London, 1828).

[3] R. Murdoch Smith and E. A. Porcher even stated (*History of the recent discoveries at Cyrene* (London, 1864) p. 58) that some crosses engraved on marble columns at Apollonia were ' almost the only decided relics of Christianity we met with in the Cyrenaica '.

[4] P. Romanelli, ' La basilica cristiana nell'Africa Settentrionale Italiana ', *Atti del IV Congresso Internazionale di Archeologia Cristiana* (Rome, 1940), I, pp. 245–89.

[5] For a provisional account, see *Illustrated London News*, 14 December, 1957.

[6] By the 6th century the *Dux* was in effect the governor of the province, and not merely the military commander as in earlier times. Our palace is surely too elaborate to have belonged to the metropolitan Bishop, and it is even less likely to have been a monastery. The absence of any altar-fittings in front of the principal apse shows that it cannot have been a *basilica discoperta*.

In this paper, however, I am concerned not with these churches, but with a different, and somewhat rarer, type of Byzantine monument excavated at Apollonia by the Department of Antiquities in 1959–60. It is, if our interpretation is correct, a palace erected in the late 5th or early 6th century A.D. as the residence and headquarters of the *Dux*, the highest official in the province of Libya Pentapolis.[6] Its importance, as will be shown later, lies in its relevance to previous learned discussions regarding the character and ceremonial of late Roman palaces.

Before describing this Apollonian palace, it may be useful to explain its *raison d'etre* in the small coastal city of Apollonia. Cyrene, the first and longest-lived capital of Cyrenaica, lost this status following the reforms of Diocletian (A.D. 297) which created the new province of Libya Pentapolis, with its seat of administration at Ptolemais. Ptolemais subsequently declined, owing to the breakdown of its aqueduct, and by the 6th century Apollonia, formerly Cyrene's port, had become the provincial capital. It appears in the Byzantine town-list, the *Synecdemos of Hierocles* (dated A.D. 527–8)[7] with the name *Sozusa*, the old name having presumably been discarded because of its connection with a pagan cult. The site is called Susa today.

We do not know in what year Apollonia-Sozusa attained its new importance in the Pentapolis, but it was probably before Justinian's succession to the throne, because that emperor found Ptolemais completely depopulated, and took steps to repair its water-supply.[8] Indeed it was probably under, if not before, the reign of his predecessor Anastasius that Apollonia had been re-founded and re-named. It is noteworthy that this Emperor's Decree governing the affairs of the Pentapolis was, at Apollonia, inscribed on marble slabs affixed to some public building, whereas at Ptolemais the same document was simply carved on the façade of an isolated fortress.[9]

Even if pre-Anastasian, there is nothing about our palace which justifies dating it earlier than the mid-5th century, and the probability is that it was erected nearer 500 than 450. In any event it must, for a brief period, have sheltered no less a person than the future Empress Theodora who, as Procopius[10] tells us, came out to Pentapolis as mistress of the governor Hekebolios, a Tyrian, before she met and married Justinian. Neither in our palace, nor in any other part of Apollonia, has this illustrious lady left any recognizable trace of her residence, although at least one small village of the Pentapolis was subsequently re-named in her honour.

Before the recent excavations, which began in March 1959, little of the palace was visible on the surface. In 1822, it is true, the Beecheys had seen enough to enable them to sketch the outline of the building on their small-scale town-plan: they described it, not inaccurately, as ' a dwelling-house of a superior description', without committing themselves as to its date.[11] The settlement at Apollonia in 1897 of Moslem refugees from Crete, followed by the Italian military occupation in 1913, resulted in the removal of much stone from the ancient ruins. The east wall of a massive fort, the ' Ridotta Roma ', was built across the principal apse of the palace, hiding it completely, and many architectural elements from the building ended up in the walls of this fort. Only the fallen north colonnade of the

[6] Note on previous page.

[7] E. Honigmann, *Le Synekdemos d'Hierokles et Georges de Chypre* (Brussels, 1939), pp. 47 and 61.

[8] Procopius, *De Aedificiis*, VI, 2.

[9] The most complete copy of the Decree, found at Ptolemais, is published as *Suppl. Epig. Graec.* IX, 356. The marble fragments of the Apollonia copy were found in 1954 by the French expedition on the seaside cliff immediately north of our palace, from the walls of which they may well have come. A third copy has been found at Teuchira (*SEG.* IX, 414).

[10] Procopius, *Anecdota*, IX, 27; XII, 30.

[11] Beechey, *op. cit.*, p. 515. The building is marked (*e*) on their plan of Apollonia.

atrium, and the dim outlines of the two minor apses, survived to hint at the character of the edifice.

The utter collapse of the palace was principally due, however, to its shoddy construction, characteristic of Byzantine non-defensive buildings in Cyrenaica.[12] Only two of its principal walls (the west and south exterior walls) were built continuously of large blocks taken from earlier structures. Elsewhere the two-storey structure was raised on walls consisting of two skins of unmortared facing, with a core of mud and rubble. Bonding-courses of ' stretchers' in the narrower walls, and ' headers ' in the broader ones did something to maintain structural stability, but everything depended ultimately on the plaster renderings. When, in the last years of the palace's life, these ceased to be maintained the walls bulged and eventually leaned or fell. The north wall, towards the sea, was particularly weak owing to the steep slope on which it stood, and seems to have been the first to collapse.

During the course of excavation these bulged or leaning walls have had to be rectified and consolidated, and we have even re-erected one or two of the fallen walls (including the north wall of the atrium) that contained important doorways, the principal elements of which had survived. It is not always realized, by those who examine the ancient monuments of North Africa after their *anastylosis*, how much time—and thought—has been necessary to achieve the visible results. Moreover, such re-erection is not normally motivated by any seeking after the spectacular: only too often the excavation cannot be completed until the fallen elements are put back in their original position. It is easier and more economical to do this *pari passu* with the actual digging.[13]

The palace stood on the western of the two hillocks which lie within the well-preserved defensive walls of Apollonia. It is the eastern hill that is today usually called the ' Acropolis ', but as it is still completely unexcavated it is impossible to test the accuracy of this name. Certainly the western eminence is more centrally situated within the town, and must have contained important buildings long before the Byzantine period. Of these nothing is visible today, and they were probably stripped down to bedrock by the Byzantine builders in search of stone.

Its lofty position gave the palace excellent observation both over the port, and inland towards the escarpment of the Gebel el-Akhdar. The old Greek and Roman road to Cyrene climbed this escarpment a few miles west of Apollonia, and was brought back into use by the Italian engineers in 1913. It is interesting to note that they built their own hill-top signal-fort (the ' Ridotta Segnale ') on the site of a Roman or Byzantine building[14] which may have served precisely the same purpose of passing light-signals between Apollonia and Cyrene. This ancient signal-station would have been clearly visible from the upper-storey of our palace, and have enabled the Dux to keep contact with his detachments in the interior.

We may now describe the immediate surroundings of the palace. The long wall, interrupted only by the major apse, that forms the western boundary of the building was probably pre-existing, or at least built on earlier foundations.[15] The area to its west has still

[12] The fortresses and fortified country churches of the Byzantine period in Cyrenaica are generally well built with large blocks, and have resisted the weather. Cf. *JRS*, 43 (1953), pl. VI–VII.

[13] I must here express my indebtedness to my colleagues in the Department of Antiquities who assisted in supervising this work, and notably to Essayed Abdulhamid Abdussaid who has made preliminary plans and drawings (figs. 1 and 2). The foreman Abdulkerim Hussein and mason Yusef Ramadan bore the main burden of the work for over a year.

[14] E. Ghislanzoni (*Notiziario Archeologico*, 1 (1915), p. 105), observed these remains before the fort was built. Nothing is visible today.

[15] This wall is the only one of the palace which corresponds more or less, to the axis of the earlier town-plan.

to be excavated, but there are clear indications that this side of the palace was not free-standing. On the east the principal part of the palace is bounded by a long *service corridor*, to the east of which again lies an extensive wing which may prove to contain the service quarters of the palace. The corridor itself was roofed over, as shown by the projecting piers that supported a series of arches spanning it; and the upper storey of the palace extended continuously across it. Narrow and roughly-built doorways opened off the corridor both to east and west, enabling the palace staff to come and go about their duties in unobtrusive fashion.

On the south the long wall that bounds the south side of the chapel is pierced by doors only at its south-west end. South of it, however, lie other rooms communicating eastward with the service corridor. These rooms have still to be excavated, but they seem to fill the whole space between the palace proper and the adjacent southern curtain of the city wall. The latter was probably pierced by a postern giving direct access to the palace from the south, but its site has still to be identified.

Only on the north, towards the sea, was the palace completely free-standing, and this was evidently the principal façade, prominently visible to the vessels that came into the port. Most of this wall had fallen down the slope, owing to wind and rain erosion of its footings, but it is clear that there was only one doorway on this side, a broad portal of which only the lower jambs survive together with a corner of the lintel and two voussoirs of the moulded arch that stood over the lintel. A large Byzantine cross is inscribed on the north face of one of the quoins that formed the corner of the building immediately east of the doorway.

Before describing the individual rooms of the palace, a word must be said about its structural development. Apart from the long wall on the west, already mentioned, there seem to be no pre-existing walls incorporated in the palace as we see it today. Nor can one readily detect any major structural changes that occurred during its lifetime. Some doors were blocked, and others subsequently re-opened; certain floor-levels were raised or lowered: but none of these modifications seems to amount to much. The shorter walls often abut with straight joints against the longer ones, but this seems to be mainly a consequence of the method of construction. For all intents and purposes the palace may be considered as a unitary construction, even if its architect had to adapt his plan to conform with pre-existing buildings on the west and the presence of the city-wall to the south.

Room 1 (FIG. 1) opens off the principal doorway on the northern façade, and was patently a vestibule. Low benches surrounded its walls, except in the south-west corner where the sentinel presumably had his post. The floor is of stone flagging. Visitors to the palace could, from this vestibule either go south towards the atrium and Chapel, or westward into the audience-hall, according to their business. We shall follow the latter route for purposes of our description.

The audience-hall (2), of which the paving was removed after this side of the palace collapsed,[16] has an apse at its west end, pierced by a doorway which, like all the other doorways in the building had a wooden frame and door and could be closed at will. Above the apse was a half-dome, of which elements were found in the excavation. Apart from a large painted cross in the centre of the half-dome, the walls were simply plastered and white-washed. Symmetrically placed in the south wall, on either side of doorway 2/8 are two pairs of cupboards built into the wall, and originally closed with wooden doors.

Beyond the hall is a small room 3, which evidently served as a passage. It has no features

[16] After the hall's collapse the apse was left standing to buttress the south wall, which was already leaning perilously. We found remains of additional late buttresses in this room, possibly of the early Islamic period when the upper storey of the palace was still in use.

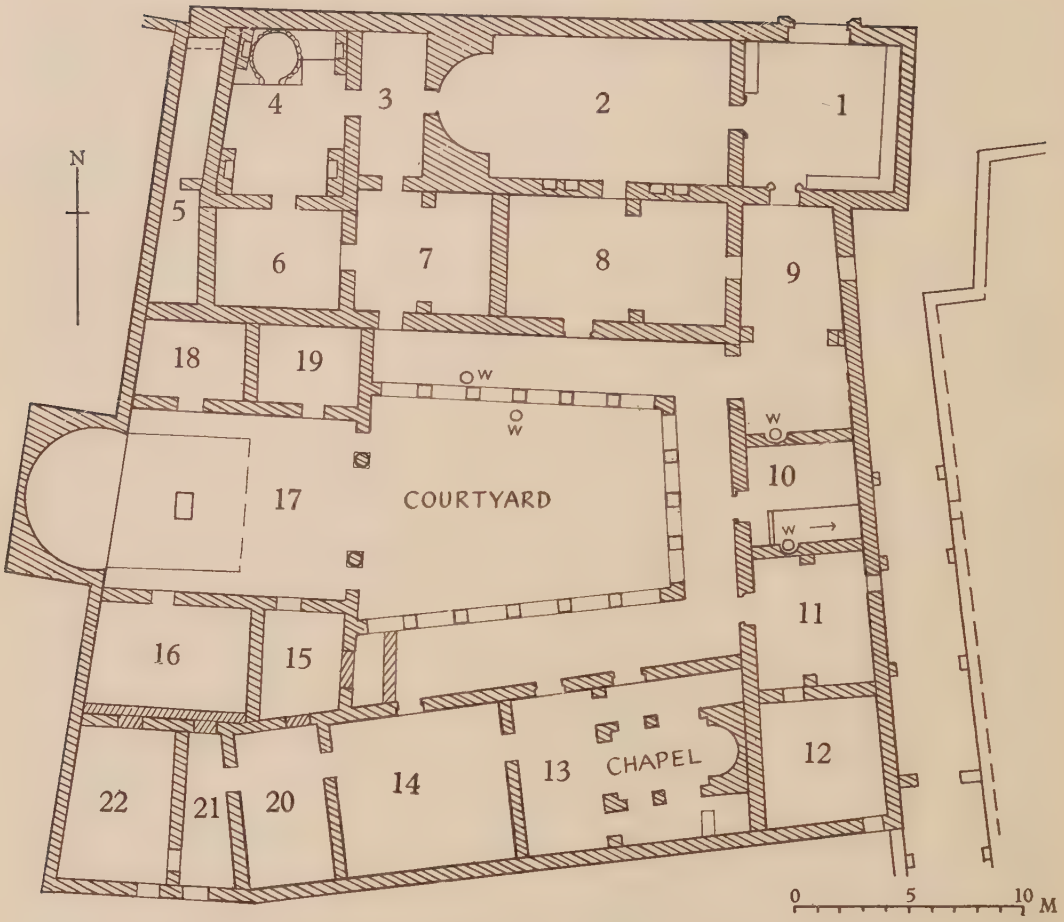

Fig. 1. Plan of the Palace of the Dux, Apollonia (1959).

of note except some traces of a late staircase against its west wall. This must have led up to the upper storey or room 4. The latter is of irregular shape, its west wall being askew, so as to run parallel to the outer west wall of the palace. In each corner is a projecting stone-built cupboard, without wooden doors; and the two northernmost cupboards were blocked at a later date by the construction of a large circular oven. Remains of a fallen vault were found in this room during excavation,[17] but there are no signs of its springing, and it seems probable that it stood in the upper storey above this room and perhaps supported a watch-tower for the visual signalling, inland or to sea, to which we have already referred. This hypothesis seems confirmed by the fact that the south-west and south-east external corners of

[17] After the vault had fallen the ground-floor of this room was filled with soil, and a rough stone floor laid at the level of the top of the cupboards. This, too, is probably of early Islamic date. Although the invading Arabs were to make their own capital of Cyrenaica at Barca, they stayed at Apollonia long enough to overturn, in systematic fashion, the columns of all its churches.

this apartment are not bonded with the adjacent walls but supported on massive quoins to give added stability.

By a door in the centre of the west wall of 4 we enter the narrow enclosure 5, in the north-west corner of the palace. The northern half of this enclosure (5) contained a privy, with wooden seat, up against its north wall, a drain running from this privy through the wall itself and thence down the external slope. The southern half, entered by a narrow door, was entirely enclosed and lightless, and would seem to have been a store or prison-cell.

Examining rooms 2–5 as a single unit, it seems probable that 4 was originally a guard-room and armoury, its corner cupboards serving both to store military equipment, and to support the floor of an upper vaulted chamber in which would be lodged the bodyguard of the Dux and his household during the hours of night. Above the vaulted room there may have been, as I have already suggested, a signal-platform standing higher even than the roofs of the upper storey.

If this hypothesis is correct, the headquarters of the palace guard was also conveniently situated for guarding the person of the governor when he entered, ceremonially, into the apse of hall 2 to hear the complaints of his over-taxed provincials. The cupboards inset into the south wall of that hall may well have served to contain the law-books and imperial rescripts needed to convince petitioners of the futility of their protests!

Rooms 6 and 7, both stone-flagged, evidently formed part of the same group as 3–5, with which they connected. We may perhaps interpret them as military offices where were kept and maintained the nominal rolls both of the regular units and the frontier guards. Room 7, in which stood a massive arch helping to support the upper storey, also had a doorway leading south into the atrium. The door-lintel, on the atrium side, was decorated with a simple tympanum in relief. A similar lintel, but of larger dimensions and with a cross carved in relief within the tympanum, opened from the atrium into room 8: this also has a paved floor and an arch spanning its width. Being in immediate communication with hall 8, it may be considered as a secondary audience chamber, or even as a banqueting hall for public occasions.

The passage 9 is, in its surviving form, a sloping ramp paved with stone slabs and leading from the vestibule (1) down to the north-east corner of the atrium. The doorway from 8 to 9 was blocked in a secondary period, as also the co-axial door from 9 to the service corridor. Both door sills are too high to have been in use after the present ramp was constructed, and we must presume that 9 originally had a floor at higher level with steps descending to the atrium level. This was modified to provide a continuously paved approach from the vestibule to the east cloister of the atrium and thence to the chapel doorway, at which point the paving ends.

The south wall of 9 is cut by a semicircular niche, at the foot of which is a well-shaft leading into the large rock-cut cistern which underlies this part of the palace. This cistern was filled, in winter by rain-water from the roofs which descended in a wooden pipe inset into the wall at the south-east corner of the atrium. Room 10 has a similar well-niche in its south wall, but the well-shaft was hidden behind a wooden staircase which rose eastwards into the upper storey. The former existence of this stairway is shown not only by an abrupt edge of the stone-paving, but also by a bottom step of stone with sockets cut into it for the timber superstructure. Thus it seems that whereas the well-shaft in 9 served the ground floor, that in 10 was for the use of the upper storey, whose residents or domestic staff could lower their buckets without the danger of hitting any ground-floor personnel on their heads.

Room 11 has a broad doorway from the atrium but no other features of note except a relieving arch across its width and a narrow service door leading into the corridor to its

east. So, too, room 12 appears featureless.[18] These rooms may have constituted a mess, with its table in 11 and kitchen in 12.

We now come to what is perhaps the most interesting feature in the whole palace complex, the chapel (13 and FIG. 2). Its architectural style is similar to that of the atrium, and I find it difficult not to assume that it was an original feature of the palace. It has two doors from the south cloister of the atrium, the eastern one being large with a crowning archway to provide

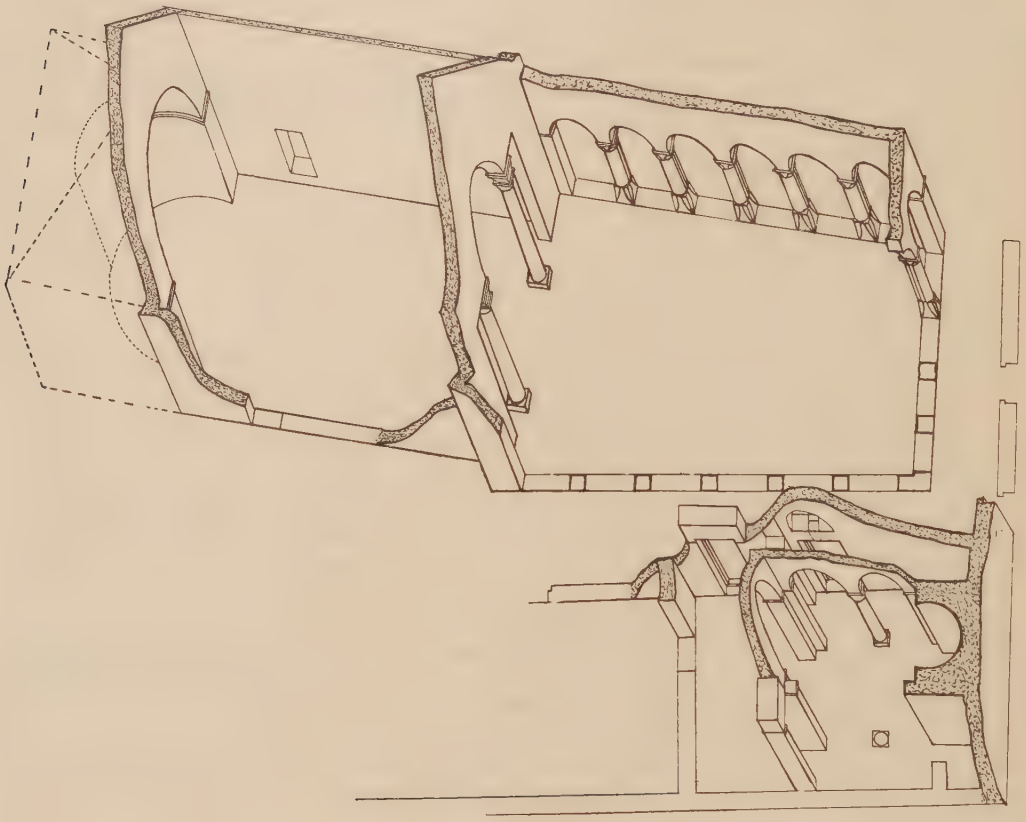

Fig. 2. Reconstruction of main courtyard area (17) and Chapel (13).

light, and the other more simple (PLATE XXXII). The small apse at the east end originally had a half-dome which, to judge from the large amount of fallen vaulting-stones, was continued as a vault westward for half the length of the chapel, being supported on a pair of intermediate stone-cut columns and on angular responds at the west end. The western third of the chapel, with its own separate doorway from the atrium, was a simple form of narthex.

Between the twin columns that supported the Chapel vaulting we found (PLATE XXXIII (*a*)) a fine marble reliquary, measuring 88 × 46 cm. and 68 cm. high. It is of sarcophagus form (PLATE XXXIII (*b*)) the separate lid being attached by metal cramps and having a

[18] At the moment of writing this room has not yet been completely cleared of soil.

central hole for the pouring in of libations.[19] A cross is incised on the body of the sarcophagus whilst the lid had an inset metal (? gold) cross (PLATE XXXIV (*a*)). There can be no doubt that this reliquary contained the remains of a saint or martyr and was the main object of veneration within the chapel; but it was broken open and emptied after the palace's abandonment, and careful sifting of the surrounding soil failed to produce any bone fragments. The lid of the reliquary, broken into two pieces, has since been repaired by us.

Who was the saint whose relics were given this place of honour in the palatine chapel? Alas, the only inscription that might have provided an answer to this question was painted in red on the stuccoed architrave of the principal door of the chapel. Most of the lettering had worn off before the architrave fell, and we were able only to recover a few meaningless letters. But if we do not know the identity of the relics, we can at least guess whence they came to Apollonia at the time of the palace's official use. While excavating the large Eastern church, or cathedral, of Cyrene in 1956 we found in its north aisle the remains of a monumental blind arch or *arcosolium* immediately facing the south doorway. It looked very much like the tomb of a saint or martyr, but there was no trace of a coffin or reliquary within the arch, and we had to assume a translation of the relics at a late date. Translation to Apollonia seems in fact the most probable explanation in the light of what we have subsequently found in the palace chapel there.[20]

The chapel originally had a third door opening westward into room 14, which itself communicated by a very broad portal into the atrium, and by a smaller door into room 20 and thence 21 and 22. At a secondary period the door from the chapel was blocked, and a rectangular enclosure, without entrance, was built into the south-east corner of room 14. This contained the greenish earth indicative of a cess-pit, and it may be interpreted as the shaft of a latrine installed in the upper storey of the palace.

The remaining rooms (20–22) in the south-east corner of the palace were simple, and do not call for detailed description, except to note that 21 at one time served as a corridor leading from 16 to the exterior of the building. But all were closed off from rooms 15 and 16 when these were in use in their surviving form.

The atrium, around which the whole palace was planned (PLATE XXX) had an earth floor and was certainly never roofed. It served, among other functions, to provide light for the upper-storey rooms of the inside of the palace. A well on its north side may suggest that it was, in part at least, laid out as a garden. The relatively low arcades surrounding it on three sides gave it a cloistered appearance more medieval than classical (PLATE XXXI).

The dominating feature in the atrium was the great council chamber, or triclinium,[21] (FIG. 1 (17), and FIG. 2), which occupied its whole west side and terminated in an apse of horseshoe plan rising up to a half-dome. This lofty hall must have occupied both ground-floor and upper storey of the building: there are, however, no indications that it was vaulted and we must assume a roof on wooden trusses. The central and major part of the main chamber was paved with stone slabs, but there were narrow unpaved strips bordering the

[19] Syrian churches frequently contain reliquaries provided with both a filling and emptying orifice, and J. Lassus (*Sanctuaires Chrétiens de Syrie* (Paris, 1947), pp. 163–7), shows this to be a means of providing pilgrims with ' holy oil ' sanctified by contact with the relics. The presence in the Apollonia reliquary, of an upper orifice only, shows that it was not used in this manner.

[20] R. G. Goodchild, *Cyrene and Apollonia—An Historical Guide* (Cyrene, 1959), p. 68. ' . . . Visible from the south door is an arched recess (*arcosolium*) which probably originally contained an important tomb, later moved elsewhere '. (This was written before the excavation of the Apollonia palace began.) Mention should here be made of the Byzantine palace of Qasr ibn Wardan in Syria which has a detached *martyrium*-chapel (not ' built-in ' as at Apollonia). Cf. Lassus, *op. cit.*, p. 146, fig. 62.

[21] *Triclinia*, as we shall see, existed in the palaces of both Constantinople and Ravenna, and the term seems to have become accepted by the Byzantines in a political rather than social sense.

north and south walls. This may indicate the former presence of wooden seats, a supposition strengthened by the high level of the floors and door-sills of rooms 15–16 and 18–19. In the centre of the floor, immediately fronting the raised concrete pavement of the apse, vertical slabs inset into the floor form a table measuring 115 × 72 cm. and 85 cm. in height. This structure bears no resemblance to the altar tables usually found in the Christian churches of Cyrenaica, and its function, if ceremonious, must have been purely secular. We may conjecture that the flat stone top (now lost) of this table bore symbols of office, or the gifts and subsidies presented to, or issued by, the governor.

The two pairs of rooms, 15–16 and 18–19, opening off this council chamber were clearly closely connected with the functions that took place there. In the original plans of the palace it seems that both pairs were meant to be accessible directly from the cloisters of the atrium,[22] but this arrangement was abandoned in favour of having the rooms accessible only from the body of the chamber. We may perhaps assume them to have been offices for the secretarial and financial staff of the Dux, with associated treasuries. Only 19 is stone-paved, but the other floors may have been dismantled in the early Arab period, when the palace, still standing if somewhat precariously, was squatted in. To this late period probably belongs a stone staircase in the south-west corner of the atrium; awkwardly inserted in the cloister, it was a substitute for the wooden staircase in room 10 which, by this time, had probably decayed.

It is, of course, difficult to analyse in detail the functions of a building of this sort, which was squatted in and stripped of its movable fittings long before it finally collapsed with the loss of its upper storeys. We would dearly like to know what went on upstairs—in what degree of luxury Duke Hekebolios installed his restless mistress Theodora, and whether that lady led a sheltered ' harem ' life, or already showed that interest in public affairs which characterized her later and better-known career. The excavation of the eastern ' service ' wing, still in progress, may yield some surprises, and for a full understanding of the palace we shall have to await the excavation of the whole hill-top on which it stands.

None the less, the ground-floor arrangements of the palace are sufficiently eloquent, even though they call for the comments of a scholar better versed in the intricacies of Byzantine court ceremonial than is the present writer. I would, however, like to make one comment regarding the function of the chapel. Apollonia had, by the 6th century, at least four churches, and the Dux would not have had to walk far to attend a religious service. The chapel in his palace is more of a *martyrium*, but I suspect an instrument as much of normal administration as of piety. Solemn oaths, sworn on the Gospels or on relics, were frequently called for in the course of Byzantine administration, just as pagan oaths had been used earlier in Roman history.[23] One such use of oaths was in guaranteeing safe-conduct for tribesmen who came down to the seat of Byzantine provincial government. Thus we know from Procopius that in A.D. 543 the notables of the *Leuathae* tribe, who had come to Leptis Magna to demand ' gifts and the insignia of office that were customary ', were only prepared to attend a banquet given in their honour by Duke Sergius after the latter had given ' pledges concerning the peace '. It was the violation of these pledges, when the Duke's bodyguard cut down the turbulent tribesmen, that sparked off a long and bloody war in Africa.[24]

[22] A blocked doorway communicating between the south cloister and room 15 is still visible, though partly masked by a very late (? early Arabic) flight of stone steps leading to the upper floor.

[23] In the early 5th century tribesmen from the interior wishing to pass into Roman territory had to take an oath of good conduct, sworn in either pagan or Christian fashion. It is interesting to observe that by the 6th century A.D. the Byzantine government was itself obliged to give guarantees.

[24] Procopius, *Wars*, IV, 21.

Although there is no record of similar events occurring in Cyrenaica, we may well imagine that a Berber notable would demand the strongest oaths of safe-conduct before he would set foot inside the Ducal palace; and the palatine *martyrium* provided the means of giving such oaths. Thus our chapel should perhaps be considered more from the angle of public relations than that of gubernatorial piety.

So much for the design of the Apollonia palace, and its political functions. We must now consider two further questions: first, how the building is related architecturally to other known palaces of the same period; and second, from what earlier types of building of the same palatine function it may seem to be typologically descended.

The first discussion may, I think, be limited by reference to one site only—Ravenna. In 1941 Professor Einar Dyggve published the important study[25] in which he proposed a novel interpretation of the well-known mosaic, in S. Apollinare Nuovo, depicting the palace of King Theodoric (PLATE XXXIV (*b*)). Whereas previous commentators had assumed this façade to be an external one, Dyggve proposed that it was *internal*, the central propylon with tympanum inscribed ' Palatium ', representing the entrance to a ' triclinium ' for closed ceremonies. The minor colonnades flanking this propylon were, according to Dyggve, the sides of a rectangular atrium or ' tribunalium ' in the centre of the palace, the mosaic's artist having taken liberties with the perspective. At the same time, Dyggve pointed out that a palace of the same type seemed to be represented by the remains of the so-called ' Palace of the Exarchs ' at Ravenna, a building presumed to be of the late 7th or early 8th century.

Dyggve's arguments were naturally handicapped by the fact that no certain remains of Theodoric's palace seemed to have survived, although two distinct structures have, at various times, been identified as such. One, which we may call *Palace A*, is the relatively small edifice south of S. Apollinare Nuovo: (FIGS. 3 and 4) its western façade still stands high in the Corso Garibaldi, whilst the interior walls came to light in 1907.[26] The other, *Palace B*, was excavated between 1908 and 1914 in the Orto Monghini, east of S. Apollinare Nuovo: its walls had largely been destroyed, but the plan was recovered in outline, together with a rich series of superimposed mosaic floors.[27]

Palace A, which used to be called the ' Palace of Theodoric ', is now usually referred to as the ' Palace of the Exarchs ' or ' Palazzo di Calchi ', the latter name being in reference to the designation *Chalke* which was applied, both at Ravenna and at Constantinople, to parts of the imperial palace. Whether its attribution to the period of Exarchs is correct is difficult to say in the absence of any published documentation regarding what was found in 1907. Certainly the similarity of its lay-out to that which we have described at Apollonia might seem to indicate an earlier date.

Palace B (FIG. 3) has, since the excavations of 1908–14, usually been considered as the true Palace of Theodoric, although there were local dissentients even at the time of its discovery. Ghirardini's excavation report was meticulous but not fully analytical, his conclusions being kept for a further and definitive report which (like so many other ' definitive reports '!) has never been forthcoming. All that can be said with safety, and Professor Doro Levi has already said it in discussing the mosaic floors,[28] is that this edifice in the Orto Monghini had a long history going back to the beginning of the Imperial Age, and

[25] E. Dyggve, *Ravennatium Palatium Sacrum—la basilica ipetrale per cerimonie* (Copenhagen, 1941).

[26] The only plan (fig. 4) of this building is that published by Ricci, *L'Architettura Romanica in Italia* (Stuttgart, 1925), p. XII. It is not at all clear which elements are certain and which conjectural.

[27] G. Ghirardini, ' Gli Scavi del Palazzo di Teodorico a Ravenna ', *Monumenti Antichi*, XXIV (1916), pp. 738–838.

[28] D. Levi, *Antioch Mosaic Pavements* (Princeton, 1948), I, p. 461, note 235.

Fig. 3. The two Palaces adjoining S. Apollinare at Ravenna: bottom left, the 'Palace of the Exarchs' (see Fig. 4); right, the 'Palace of Theodoric' excavated in the Orto Monghini (after Ghirardini in Monumenti Antichi, *XXIV).*

that ' even among the mosaic fragments of the upper level, only a few show late enough characteristics to be attributable without hesitation to a date around A.D. 500 '.

Thus of our two ' Palaces of Theodoric ' at Ravenna, the one is—in its origins at least—patently too early to be attributed to the Ostrogothic King, and the other seemingly too late. Yet whilst it must be left to the active school of Ravenna archaeologists to determine, by study of brickwork styles or relative ground-levels, the relative dates of the two buildings, we may perhaps here venture to make two comments.

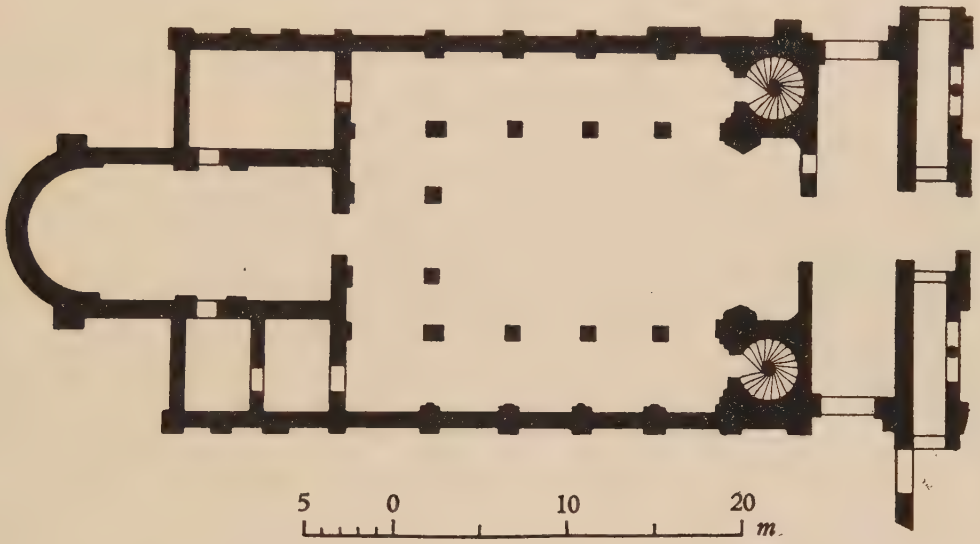

Fig. 4. The Palace of the Exarchs or ' Palazzo di Calchi ' (after Ricci).

The first is that whereas Palace B at Ravenna is clearly *residential*, with a spacious lay-out and a complex of rooms on its south side, Palace A is definitely not: the latter can only have served for purposes of court ceremonial or public administration. We must therefore consider the possibility that B is the ' old palace ', perhaps continuing in use as a residence under Theodoric; and that A was constructed at a later date in order to remove the court ceremonial out of the residential quarter. Thus the two buildings should perhaps be considered as complementary, at least at one stage of their existence.

Our second comment is that apart from its axial entrance and elaborate external façade (the latter perhaps a secondary feature) Palace A is closely akin to our Apollonian building stripped of its circumferential features. And if the former, as Dyggve rightly pointed out, resembles the ' Palatium ' of the S. Apollinare mosaic, then certainly the latter resembles it even more closely; for the entrance to the great apsed hall opens directly off the atrium itself, as appears to be the case in the building depicted by the mosaic. Whilst, therefore, Dyggve's conjectural restoration of the Palace of Theodoric may need modification in detail, his basic argument regarding the form of late-antique palaces has surely been amply vindicated by the recent discovery at Apollonia.

In conclusion, we must consider briefly the ancestry of the type of palace represented at Ravenna and Apollonia. Was it designed specifically to meet the needs of Byzantine ceremonial, or is it a penultimate phase in a long evolutionary process beginning with the

Minoan palaces of Crete and terminating in early Islamic architecture.[29] Many years ago Swoboda[30] examined all the evidence then available on the subject of ancient palaces, and Dyggve made further observations in his paper of 1941. Since then two new palaces of the later Roman period have become available to the student: the ' Palace of the Dux Ripae ' at Dura-Europos, and the great Villa of Piazza Armerina in Sicily.

At Dura-Europos the palace consists of two courtyards or peristyles, one surrounded by rooms, and the other containing only a single hall (' Exedra 59 ') which the excavators suggest was ' well suited to be the place in which the resident of the building transacted official business, either military or civil '.[31] But this hall is not axial to the whole lay-out, and there are in fact few points of resemblance between this palace and the one at Apollonia. At Piazza Armerina, on the other hand, we have one notable great hall fronted by a peristyle axially-planned, but there is still doubt as to whether the Villa was ever an official seat of administration; and the most striking features may therefore be ornamental rather than functional.[32]

A building which might substantially assist in our present inquiry, if we were more fully informed as to its character, is the ' new praetorium ' of Gortyna in Crete. This edifice, constructed in the late 4th century, included an apsed building which has usually been called a basilica, but could perhaps be a small audience hall fronted by an open court.[33] Since Gortyna was for three centuries the seat of administration not only of Crete, but of Cyrenaica too, we should perhaps look there for antecedents of the Apollonia palace.

Yet for early examples of palatial buildings with axially-sited triclinia fronted by high-standing façades we need not even go outside Cyrenaica. At Ptolemais there is the notable ' Palace of the Columns ' published not long ago by Gennaro Pesce and attributed to late Hellenistic or early Roman times.[34] The so-called ' House of Jason Magnus ' at Cyrene, which was perhaps the official residence of the Gymnasiarch, and is in its present form of the 2nd century A.D., has a *triclinium* of similar proportions and equal dominance in the architectural ensemble.[35]

In truth, the existing material is still too inadequate to permit any firm conclusions regarding the origins of the type of palace represented at Apollonia. The *Atrium Magnum* of Alexandria, where the Prefect sat on his tribunal surrounded by his assessores is known to us only from papyri. The remains of the Imperial Palace at Constantinople, although better known in recent years, are too fragmentary to be cited in the present context. A governor's palace in 6th-century Cyrenaica may have been built on a plan scaled down from the larger palaces of the Eastern Empire, or it may have been modelled on the ' palazzi signorili ' of an earlier era. I think, however, that we may discount any direct descent from the military buildings of past ages. Although still a military commander, the Dux Pentapoleos of the 6th century was primarily a proconsul, in the modern sense of the term, and his headquarters was therefore a palace rather than a military building.

[29] For ceremonial halls in Islamic palaces, of. Sergio Bettini, ' Il Castello di Mschatta in Transgiordama nell'ambito dell' " Arte di Potenza " tardoantica ', *Anthemos* (*Scritti in onore di Carlo Anti*), Firenze, 1955, 321.

[30] K. M. Swoboda, *Römische und Romanische Paläste* (Vienna, 1924).

[31] *Dura-Europos*, Prelim. Report of 9th season, Part III, *The Palace of the Dux Ripae and the Dolicheneum* (Yale, 1952), p. 72. In pp. 83–92 of this same report Rostovtzeff gives a valuable discussion of palaces and *praetoria*.

[32] G. V. Gentili, *La Villa Imperiale di Piazza Armerina* (Itinerari dei musei a monumenti d'Italia), Rome, 1956. The hall (room 30 on Gentili's plan) is called a ' basilica '.

[33] A brief description and bibliography of the Gortyna *praetorium* is given in L. Pernier and L. Banti *Guida degli Scavi Italiani in Creta* (Roma, 1947), pp. 18–21 and pl. 27.

[34] G. Pesce, *Il ' Palazzo delle Colonne ' in Tolemaide di Cirenaica* (Rome, 1950), pl. 5.

[35] Here, however, the lofty colonnade of the peristyle in front of the *triclinium* is not interrupted as at Ptolemais. The building has recently been studied, and will be published by Professor P. Mingazzini.

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The Archaeologist and Church History

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IN more than one way the publication of the *Atlas of the Early Christian World* in 1958 was a significant event. Here for the first time was brought together in a single volume the enormous additions which archaeology had brought to our knowledge of the history of the early Church. The publishers were not putting their claims too high when they spoke of the ' 620 gravure plates ' being ' unrivalled as a collection, illustrating all facets of early Christianity '. They did. There were the great churches of Ravenna, Istanbul, St Peter's and Sabratha, side by side with cemeteries, sarcophagi, mosaics, papyri, lamps and a host of other objects which tell us something of the life and thought of Christians in the first seven centuries. And though, here and there, emphases and omissions betrayed the hand of orthodoxy, it was also a work of ecumenical scholarship, a monument to the efforts of all Christian traditions.

Archaeology, as Professor Josi pointed out in a lecture to the Pontifical Gregorian Academy,[1] has touched nearly all aspects of the study of Church history, including the development of its mission, the background to its doctrines, and the growth of its liturgy. The implications of this are worth considering, for it may well be that the archaeologist will eventually face the theologian with greater problems than those raised by Biblical criticism in the last century. To some extent, the mantle of the Higher Critic has now descended on the archaeologist.

In this paper we shall first be discussing briefly some of these new archaeological discoveries and then considering their significance for the future study of Church history. During the last thirty years the harvest has been immense. The accidental discovery of more than 1000 leaves of papyrus codex, comprising forty-nine Gnostic works in a library of the Sethite sect at Nag-Hammadi near Luxor in 1946 has not only put into our possession works which may include those of Valentinus himself, but has thrown an entirely new light on the nature of Gnosticism.[2] It may be necessary to abandon Harnack's dictum of ' extreme Hellenization '[3] in favour of an appreciation of the part played by Jewish mysticism in the development of these sects. In any event, the heretics now speak for themselves without the often distorting mirror of the works of their orthodox opponents. A similar

[1] Enrico Josi, ' Il Contributo dell' Archaeologia cristiana alla Storia della Chiesa antica ', *Analecta Gregoriana*, LXX, 1954, 3–17.

[2] Extracts of one codex of these documents have been studied by Professors H. C. Puech, G. Quispel and W. C. van Unnik and the results of their work presented to English readers by Professor F. L. Cross in *The Jung Codex*, Mowbrays, 1954. H. C. Puech's ' Les nouveaux Ecrits gnostiques découverts en Haute-Egypte ', in *Coptic Studies Presented in Honour of Walter Ewing Crum*, Boston, 1950, 91–154, is still the most useful work on the collection as a whole.

[3] A. Harnack, *Lehrbuch der Dogmengeschichte*, I, 236 (E.T. I, 229).

find in 1931 at Medinet Madi in the Fayum has resulted in knowledge of the original works of the arch-heretic Mani (A.D. 216–277) and of the liturgy of the Manichaean communities in 4th-century Egypt. Another accidental discovery, this time while digging a gun-pit south of Cairo in 1941 brought to light some lost works of Origen, and even more fascinating, of his disciple Didymus the Blind (flor. *c.* A.D. 380). Here, in hitherto lost commentaries on the Psalms, was revealed part of the intellectual background to the Alexandrian position in the great Christological controversies of the fifth century.[4] Then, finally, to crown everything, the Dead Sea Scrolls and the Essene (?) monastery at Q'mran, are epoch-making discoveries which will influence permanently Biblical studies. These are the sensational chance finds, but of equally lasting value have been the results of systematic campaigns in the field such as those carried out by French archaeologists in Algeria and British and Turkish scholars in Anatolia. These have added greatly to our knowledge of the spread of Christianity and of its impact on the rural populations of the Roman provinces.

Some of the discoveries belong almost to the realm of science fiction. Take, for instance, the discovery of the Manichaean documents from Medinet Madi.[5] In 1930 the German historian and papyrologist, Professor Carl Schmidt was on a visit to Cairo. The trip was a normal one, entailing a round of calls on local dealers from whom he hoped to buy papyri for the Kaiser Friedrich Museum in Berlin. Schmidt was a busy man and had brought with him the proofs of a new edition of Epiphanios' great dossier of early heresies (the *Panarion*) which a friend was engaged in editing.

The night before a visit to a life-long acquaintance he happened to be working over his author's account of the Manichaeans. Apart from some texts found in Central Asia the literary remains of these heretics, who for ten years had numbered St Augustine among their adherents, had utterly perished. Nothing was known about their writings except from the descriptions of their enemies. But Epiphanios had mentioned a work he called the *Kephalaia* or Principles as one of the chief Manichaean books. Schmidt had just reached this place in the text and meant to carry on the next evening.[6]

After the usual black coffee the dealer brought out for inspection what looked like a wad of thick, dry felt and put it on the counter. It seemed pretty hopeless, when Schmidt noticed that at any rate the Coptic lettering on the first sheet was remarkably well set out. He looked at the papyrus more closely, and then in the top right hand corner his eye lit on the word *Kephalaion* and a little lower down the page the words ' And then the Illuminator said '. He had found an original Manichaean manuscript, the first ever discovered within the boundaries of the Roman Empire.

Eventually, seven complete works were recovered, which a native had originally found in a waterlogged chest in the rubble of a Roman house in a village in the Fayum, and brought with him into Cairo. Here were not only some translations of the works of Mani himself, but more interesting, the hymns and psalms sung by his humble followers in Egypt. For the first time the impact of this sad dualistic religion of resignation and fatalism on the ordinary people of the Roman Empire was revealed. The mutual reproaches of ' Manichaeism ' bandied between Athanasius and his opponents were more than mere ecclesiastical abuse. Manichaeism was the underlying peril to the position of the Church in both the Eastern and Western halves of the Empire in the fourth century. Its existence forces doctrinal disputes into certain set channels in order to avoid the stigma of this heresy. The

[4] A. Gesché, ' L'âme humaine de Jésus, dans La Christologie du IVe. s.', in *Revue d'Histoire Ecclésiastique*, LIV, (1959) 385 f.

[5] Schmidt's description of the event is given in his paper, *Neue Originalquellen des Manichaismus aus Aegypten*, Stuttgart, 1933.

[6] Epiphanios, *Panarion* (ed. Holl), 68.

importance of the discovery for the study of the early history of the Church, not least for the background of the doctrine of St Augustine, was immense.

Of the systematic campaigns with a specific object in view two may be quoted, the excavations beneath St Peter's from 1940–9 and continued since, and the intensive work by French scholars in Algeria extending back to the 1890s, which resulted in a great increase in our knowledge of the native African civilization associated with the Donatist schism. The Vatican excavations were surely one of the boldest efforts ever undertaken to solve a problem of Church history through archaeology.[7] Could St Peter's resting place be determined or not? If it could, and if the bones of the Apostle could be proved to have been buried beneath the spot now marked by the high altar in St Peter's, then part of the Petrine tradition would have been vindicated. The last wish of Pope Pius XI in 1939 to be buried as near as possible to the Confessio in St Peter's led to excavations being begun under the Church immediately after his death.

His successor had listened with enthusiasm to Monsignor Duchesne's lectures on Christian archaeology when a young man, and with great courage and scholarly zeal authorized the work in the area beneath the high altar. In July and August 1944, my own duties with the Foreign Office brought me into contact with the Vatican authorities, and I was privileged to see the work in progress on more than one occasion and spend some hours in the excavations.

Conditions were extremely difficult. The foundations of the basilica built in honour of St Peter by the Emperor Constantine impeded the alignment of trenches. Much had been destroyed in the Renaissance by the foundations of the walls of the crypt under Bernini's Church. So cramped was the excavation that the proper disposal of soil which had been examined seemed to be an insoluble problem. This meant that the purely technical but vital task of establishing sections for dating was almost impossible.[8] The result was an untidy dig and the consequent difficulty in assessing its results. The presence, however, of an imposing pagan cemetery which dominates the site, the lack (with a possible single exception) both of graffiti invoking the Apostle, and of datable Christian material before the 3rd century A.D.[9] suggests that the place of St Peter's burial has not been found. On the other hand, this spot may have been where Christians in the mid-2nd century A.D. themselves located it.[10]

In Africa also, the problem was one of testing the truth of an existing literary tradition. A great deal was already known about the history of the North African Church from the writings of the African Fathers, Tertullian, Cyprian, Optatus of Milevis and Augustine. From the works of the two latter authors it was clear that the last century of Roman rule in North Africa had been one of religious stress and turmoil, that the vast majority of the

[7] The most useful estimates of the results of the excavations are: J. M. C. Toynbee, ' The Shrine of St Peter in its Historical Setting ', *Journal of Roman Studies*, XLIII, 1953, 1–26; J. Carcopino, *Etudes d'Histoire chrétienne*, 1953, 99 f.; O. Cullmann, *Petrus*, 1952, 73–169 (E.T. 1953, pp. 132 ff.); and J. M. C. Toynbee and J. Ward-Perkins, *The Shrine of St Peter and the Vatican Excavations*, Longmans, 1956.

[8] No stratigraphical sections were published in the official *Report*. Cf. the author in *Journal of Theological Studies*, N.S. VIII, 1957, 159–62.

[9] This lack is in marked contrast to the great number of third century invocations to SS Peter and Paul which adorn the walls of the *Memoria* of the Apostles beneath the present church of San Sebastiano. See H. Chadwick, ' St Peter and Paul in Rome ', *Journal of Theological Studies*, N.S. VIII, 1957, 31 ff.

[10] The opinion of Toynbee and Ward-Perkins, *op. cit.* 159, is worth quoting. ' That the Christian community of the mid-second century did in fact believe St Peter to be buried in approximately this spot, and that the builders of the Red Wall in trenching for their foundations, did hit upon one end of a deeply buried grave, which was promptly identified as that of St Peter, is a hypothesis that would explain a great deal that is otherwise puzzling in the archaeological record.' The work by E. Kirschbaum, S. J. *The Tombs of St Peter and St Paul* (E.T. London, 1959) does not advance the argument.

natives rejected orthodox Catholicism, which they associated with economic oppression. They turned instead to a stern puritanical schism, which took its name from its first great leader, Donatus of Carthage. Here was the chance of finding out how the ' Donatists ' lived, and perhaps why St Augustine found them such intractable opponents.

This work was laborious. It involved a detailed survey of more than one hundred sites of Romano-Berber villages in an area 60 miles by 25 miles in Central Algeria, sometimes approachable only by mule, followed by trial excavations.[11] On one occasion, I was told to go round a large group of ruins counting up the remains of olive presses which littered the ground. There was some method in this particular madness, as olives and barley were the principal crops grown by the natives in Roman times, and these presses provided a clue to the density of the population and to its social structure.

On the whole, the work was surprisingly well rewarded. We found that in the 4th and 5th centuries Christianity had been the universal religion of these Africans. In some sites of villages remains of no less than six churches were found. There were seldom less than two. All these contained the typical characteristics of the Donatist cult, such as the fervent veneration of ' martyrs ' (mostly completely spurious), devotion to the triumphant psalmody of the Old Testament (shown by texts cut on the lintels of the doors), and sometimes even the watch-word *Deo Laudes*, dreaded by the opponents of the sect more than the lion's roar.[12] Gradually a pattern emerged.

We were able to see how Donatism had swept through the native villages like a forest fire and why Augustine and his friends were unable to suppress it. It was a real, popular movement, with its own art as well as its own services. The scores of little chapels which we found bore witness to its enduring strength. There had been nothing left for the Imperial government but to use force against it. The arguments in favour of persecution with which Augustine supplied the authorities[13] have left an evil legacy from his day to our own.

Where they have been published, the contents of some of the newly-discovered documents are as interesting as their discovery. The informality of Church Councils in the 3rd century A.D. is strikingly revealed by a papyrus containing a lost work of Origen, which was found during the construction of defence works against Rommel's advance near Cairo in 1941.[14] Origen himself is introduced at one point with the words: ' This is Brother Origen, who teaches that the soul is immortal ',[15] and Origen stands out, not as a misty theologian, but as a fighter for the faith, and a man who believed in the spiritual powers and dignity of his fellow men.[16]

Another document provides a striking criticism of Christianity in the 3rd century A.D., written by a great religious leader who saw the new religion from the outside, from the neighbouring country of Persia.[17] Mani criticizes Jesus of Nazareth severely for not having put His ideas into writing and for having left them to chance interpretations by ignorant disciples. Christianity, he complains, was a local religion, confined to the ' West ', that is,

[11] Described by André Berthier, *Les Vestiges du Christianisme antique dans la Numidie centrale*, Algiers, 1942.

[12] Augustine, *Enarratio in Psalmum*, 132, 6. A. Berthier, *op. cit.*, 205 ff.; W. H. C. Frend, *The Donatist Church*, Oxford, 1952, Ch. IV.

[13] See Augustine, *Letters* 93 and 185.

[14] J. Scherer, ' Entretien d'Origène avec Héraclide et les Evêques ses collègues sur le Père, le Fils et l'Ame ' (Publications de la Société Fouadi de Papyrologie, Textes et Documents, IX) Cairo, 1949, p. 1.

[15] *Ibid.*, Ch. 24 (Scherer, p. 166).

[16] *Ibid.*, Chs. 24–27.

[17] C. Schmidt and H. J. Polotsky, ' Ein Mani-Fund in Aegypten ', *Sitzungsberichte der Berliner Akademie der Wissenschaften*, 1933, Phil. Hist. Klasse, 4–89, at pp. 41–42 (Mani, *Kephalaion*, 154).

to the Roman Empire, just as Buddhism, which he knew from a visit to India in A.D. 240, was confined to the East.[18]

Mani aspired to take what he believed to be the best from both these religions and preach a universal faith, and he saw to it that his ideas were written on the finest papyrus, and translated into a large number of different languages. In vain, for his religion perished almost without trace. It has been left to the present century to re-establish its tenets and appreciate its threat to Christianity.

An unexpected result of the discoveries of Gnostic documents at Nag Hammadi was the recovery of the *Gospel of Thomas*. This is an extraordinarily interesting document, consisting of a collection of 114 logia or sayings attributed to Jesus, and dating to about A.D. 140. It is remarkable, in that while many of the sayings narrate the same incidents that are found in the Bible, such as the Parable of the Vineyard, and the Sower, or Jesus' saying about the New Wine in the Old Wineskins, none of these sayings agrees word for word with the text of the canonical Gospels. Often too, the writer has given the saying or parable quite a different meaning. For instance, there is notably less criticism of Pharisees in the Parable of the Husbandmen and less interest in the Gentile mission than one finds in the Gospels. One would agree with Quispel[19] that the *Gospel of Thomas* was neither compiled from the books of the New Testament, nor, in all probability, constitutes one of the sources of those books. We are confronted by an independent tradition but an ancient one, with a markedly Aramaic background. This fact leads on to a second point of interest. If the *Gospel of Thomas* did not influence directly our own Bible, there is some reason for believing that it influenced the *Diatessaron* of Tatian, a harmony of the gospels written in *c.* 170, and used for a long time by the Syriac-speaking Church. We find that Tatian has used word for word the *Gospel of Thomas* in some places and not the canonical Gospels. This same text too, may have influenced the Western Text of the New Testament on which the Bible as used in North Africa from the 2nd to the 4th century A.D. was based. Again, we find variations from the canonical Gospels in the latter, reproduced in the *Gospel of Thomas*. Thirdly, this document fits into place besides other collections of *logia* which were circulating in Christian communities in the 1st and 2nd centuries. It is very similar (especially in the text of the Parable of the Sower), to a collection used by the writer of 1 *Clement* in Rome, *c.* A.D. 100. We are confronted by new perspectives in New Testament criticism. If we have not found ' Q ' itself, we have now at least a strong idea of what ' Q ' looked like.

In England we can hardly hope to match these discoveries which will influence permanently the study of the history of the Early Church. Some interesting additions, however, have been made to our knowledge of the Church in Roman Britain. The Roman villa at Lullingstone, in Kent, has yielded priceless evidence for the existence of a House-church in one of its upper rooms during the late 4th century.[20]

The plaster which had decorated the walls of this room had fallen into a cellar below and was preserved practically intact. Many fragments were recovered, and slowly a representation of a church and figures standing praying emerged to the astonishment of the discoverer. The result was entirely unexpected. In other parts of the country the existence of a Christian community of this period is attested by objects marked by Christian symbols, including what appear to be large leaden fonts.[21] There seems to be no doubt that the Church in

[18] *Ibid.*, pp. 42–46 (Mani, *Kephalaion*, 154).

[19] See G. Quispel, ' The Gospel of Thomas in the New Testament ', *Vigiliae Christianae*, XI, 1957, 187–201, and the author's talk on the BBC, published by the *Listener*, 3 March, 1960, p. 389–90.

[20] Lt.-Col. A. W. Meates, *The Roman Villa at Lullingstone, Kent*, 1955, Chs. XII–XIV.

[21] J. M. C. Toynbee, ' Christianity in Roman Britain ', *Journal of the British Archaeological Association*, XVI, 1953, 15.

Roman Britain shared to the full the rites and creed of the Church throughout the rest of Latin Christendom.

What of the future? From now on the archaeologist will probably be the principal source of new evidence on the early history of the Church. Occasionally, monastic libraries may reveal a lost text like the famous discoveries made in 1875 and 1907 of the *Didache* and *Epideixis* of Irenaeus, but this source, valuable though it is, cannot be relied upon permanently. Many of the lost Christian writings originated as letters or tracts written to individuals, or were controversial works composed for a particular occasion. Unless they were copied quickly and preserved in a library (like that of Pamphilus of Caesarea) they would almost certainly be lost. The social standing of many of the writers also would militate against the literary survival of their works. In addition, heretical works such as those of the Manichaeans were systematically destroyed. But factors which would prevent survival of books in a library would not prevent their discovery on an ancient site. Papyrus was valuable, and it has happened that a tract dealing with a half-forgotten controversy was used on the back for a more utilitarian purpose, such as making a tax receipt, and so found its way into the office of the village secretary.[22] Moreover, the archaeologist generally directs his efforts towards investigating the culture of people whose sole records are their utensils and graves. This has led to the excavation of great Christian cemeteries such as Timgad, and the exploration of artisan quarters in Roman cities where Christianity flourished at an early date. The cemetery at Timgad produced some interesting evidence of the literal manner in which these African Christians regarded bodily resurrection. Many of the bodies had been laid in plaster which preserved exactly the features of the dead.

Thus, a whole new field of study inaccessible to previous generations of scholars and theologians is opening up. There is no possibility now of Church history stagnating through lack of fresh material. Indeed, through archaeology, the student has been brought into closer contact with both the environment and the ideas which characterize the Age of the Fathers. Knowledge of both Tradition and Heresy are expanding as never before. At a critical moment in the Church's long history we are able once more to recapture something of the period in which the great traditional doctrines were formulated. This is all to the good, for thus Christianity will never lose contact with history.

In the Mediterranean provinces of the Empire, the Church is revealed from the rudely carved inscriptions, and the rustic buildings and native artistic traditions of its adherents, to have been part of a great popular movement. The statements which we read in the Fathers merely put into articulate form ideas bandied about in the baths or marketplace.[23] This is in itself interesting, because it sheds light on influences at work during the formative period of Church doctrine. Moreover, many problems which have been the sport of literary critics for decades are now liable to rapid solution. Few, for instance, would continue to assert a mid-2nd-century date for St John's Gospel when fragments have been found copied on papyrus in handwriting datable to approximately A.D. 150.[24] Similarly, the use of Tatian's *Diatessaron* among the Syrian Christian communities in the early 3rd century can be proved by the discovery of a fragment at Doura-Europos which fell to the Persians in 256 and was

[22] For instance, fragments of Bk. 18 of the *Κέστοι* of Julius Africanus written not later than 235 were preserved on the back of a tax register dated to the reign of Tacitus (275–6). See W. Bauer, *Rechtgläubigkeit und Ketzerei*, Tübingen, 1934, 162.

[23] For the intense interest taken in theological problems by the populace in Constantinople in the 4th century, see Gregory of Nazianze, *De Deitate Filii, Patrologia Graeco-Latina*, 46, 557B.

[24] Pap. Rylands Greek, 457, containing parts of John 18. 31–33 and 18. 37–38. Published by C. H. Roberts, *An Unpublished Fragment of the Fourth Gospel*, Manchester, 1935.

not reoccupied.[25] The archaeologist can be relatively accurate where the Higher Critic could only weigh up probabilities. Definite answers can replace speculation.

One final point. How far are we in this country participating in this movement? It must be admitted that the answer is less encouraging than it should be. The publication of the *Atlas of the Early Christian World* is a challenge to scholarship in Britain. Despite the work of Ramsay and Calder in Asia Minor, and more recently of Ward-Perkins and Goodchild in Tripolitania, the period A.D. 150–350, which saw the great expansion of Christianity, is among those least studied here. Partly due to the poverty of our own annals, partly perhaps, to insular conservatism and inertia, the 3rd century A.D. has been written down as 'anarchy', and left as a sort of wilderness of scholarship spurned by Classicist and Mediaevalist alike. Moreover, the Church historian, traditionally literary in his approach and inexperienced in practical archaeology, has tended to study his subject in isolation from its environment. We have not developed an *Antike und Christentum* school in Britain. There is not, to the writer's knowledge, a single post in any British University in Christian Archaeology. Hence, we start with a handicap, for the application of archaeology to the study of the early history of the Church demands just such an approach. One cannot understand, for instance, the significance of the Return of Ulysses fresco in the catacomb of the Aurelii in Rome without having absorbed something of the religious life of the late 2nd century.[26] This brings the problem home to us. Rightly the Anglican Communion has always been noted for its scholarship. The names of Lightfoot, Burkitt, Gore, Kidd and Sanday are only few of the great scholars who have served the Church. But reputations do not stand still. The new techniques of study must be learnt laboriously and employed to advantage if the Church in this country is to keep abreast in this field. Here is a challenge worth accepting. For we have the chance as never before of making the past history of the Church intelligible to our contemporaries, and that chance must not be lost.

[25] C. H. Kraeling, 'A Greek Fragment of Tatian's Diatessaron from Doura', *Studies and Documents*, III, 1935.

[26] Published by Carlo Cechelli, *Monumenti cristiano-eretici di Roma*, Rome, 1944, at p. 100.

Book Chronicle—*continued from p. 245*

ARCHAEOLOGY IN THE FIELD. *By* O. G. S. CRAWFORD. *London, Phoenix House*, 1960. 45*s*. The fourth impression of this book by the Founder of ANTIQUITY, first published in 1953.

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[*continued on p. 294*.

A Knossian Vase from Attica

by MARIA D. THEOCHARIS

Mr D. Theocharis, of the Ephorate of Antiquities of Attica, re-examined in 1953 *a Mycenaean cemetery of chamber tombs* 20 *km. south-east of Athens. His wife here describes a Knossian vase found in the excavations.*

THE shore and bay of Varkiza lie on the Western Coast of Attica at a distance of about 20 km. south-east of Athens and it is well known as a favoured holiday residence. Not far from the shore and the actual settlement, on the left of the road to Vari—the modern substitute of the ancient Demos ' Anagyrous '—on a hilly site called by the peasants ' Kaminia,' has, long ago, been noted the existence of a Mycenaean cemetery of small-chamber tombs,[1] many of which have been plundered and destroyed by the tomb-robbers.

One of these, plundered also, was re-examined in March 1953 by D. Theocharis, working for the Ephorate of Attica under the direction of Dr J. Papadimitriou,[2] in order to collect some information on the date and shape of the graves. The small chamber, roughly circular (measuring about 2·60 × 2·40 m.) and approached by a very short ' dromos ' from the east, was almost completely denuded and badly damaged, as well as an alcove or smaller chamber dug on the right side of the chamber.

However, a small niche (0·48 × 0·53 m.) hollowed on the opposite side of the chamber, had been left untouched by the robbers and was found to contain twenty complete vases and a few bones from one or more displaced burials.

The pottery belongs to the L.H. III A-B period (1425–1340 B.C.)[3] (PLATE XXXV (*b*) and (*c*)) except for one basket-like vase, which is a little earlier, probably preserved as a valuable object or belonging to the first interment (PLATE XXXV (*a*) and FIG. 1).

The other chamber-tombs of the region may be dated to the same L.H. III period, but we have evidence that an earlier necropolis exists here.[4] A corresponding Mycenaean settlement must also be nearby.[5]

The curious basket-like pot differs from the other vases in the tomb and hardly appears to be of Attic or even Helladic manufacture. The character of the clay and the decoration, as well as the unusual shape, suggests Cretan origin. The vase (PLATE XXXV (*a*) and FIG. 1) is complete except for part of one basket-handle and a small fragment from the top of the lip, both of which have been reconstructed with plaster.

It is 18·7 cm. high (including the handles), 13·6 the greatest width and 6·3 between the handles and the diameter at the base is 6·3 cm.

[1] For the Mycenaean cemeteries of Attica cf. F. H. Stubbings, ' The Mycenaean Pottery of Attica ', *BSA*, LXII, 1947, 1–75. Further bibliography in E. D. Townsend, *Hesperia*, XXIV, 1955, 187–219.

[2] Preliminary reports: *JHS*, LXXIV, 1954, 148. *BCH*, LXXVIII, 1954, 110.

[3] Cf. the Helladic chronology by A. J. B. Wace in E. L. Bennett, ' The Mycenaean Tablets ', *Proc. Amer. Phi. Soc.* XCVII, 1953, 424, note 8 and Foreword in ' Ventris-Chadwick *Documents* ', 1956.

[4] A L.H. II Shaft-grave has been excavated near the shore of Varkiza by D. Theocharis in February 1951 (unpublished).

[5] Cf. *AA*, 55, 1940, 178.

Fig. 1. ' Flower-pot ' from a chamber-tomb at Varkiza (Attica) (D. E. Theocharis).

The clay and the slip are of the same light-greenish-yellow colour, the biscuit purified and well baked. The colour of the lustrous paint shades from black to brown.

The shape is conical, basket-like, very pressed below the two ribbon handles, which are raised vertically upon the rim and are incised in the middle by a notch. At the ends of the handles there are plastic studs which, as well as a plastic band below the rim, recall perhaps metal-work, or more probably basket-work. The rim is horizontal, broad upwards and notched in the middle. The bottom is flat and there is a small round hole, 3 mm. in diameter (which seems to indicate a flower-pot rather than a ' rhyton ') bored after the firing.

The vase is all painted, but the main field of decoration is bordered with two bands above and below. The plastic band below the rim is also painted with dots arranged in a row and the neck too is decorated with an ' S ' pattern. It may be noted that the paint extends on the inside (0·015 m. below the rim) and this is usual in Cretan vessels with wide openings.

The main field is filled up with marine decoration of remarkable naturalism (FIG. 2). Four tunny-fish (Thynnus[6]) with open fins, sink down towards the bottom where marine

Fig. 2. ' Flower-pot ' from Varkiza: developed drawing (restored).

vegetation indicates the natural surroundings. The whole design is bordered at the top with rock pattern—ornamental rather than substantial. The position and direction of the fishes is very suitable to the shape of the vase whilst their transverse movement and perspective differentiation, the vivacious eyes and gaping mouth, all compose a picture of great decorative value, full of grace, truth and life.

As already noted, the fabric of the vase appears not to be local or Helladic and the shape is unknown on the mainland although it has a long evolution in Crete.[7] Moreover, the natural marine decoration has no exact parallels with the mainland's ceramic style, but it is almost identical with examples from Knossos, where the marine motives were created and had a long tradition. In fact, the representation recalls the ' high art ' of the wall paintings and belongs undoubtedly, to the ' Marine School ' of Knossos. It is well known how much this marine style has been influenced by wall-painting models and the jars of Pachyammos (M.M. III–L.M. I)[8] are a good example of the almost exact reproduction on pottery of the contemporaneous ' Dolphin Fresco ' in the Queen's Megaron.[9] It is difficult to say whether the somewhat similar representation on vases were made by the same painters but, in any case, the ' Knossian Cycle ' of decoration is observable.

[6] D. W. Thompson, *A Glossary of Greek Fishes*, 1947.

[7] L.M. I B Casket-like vase (for ritual use) from Pseira, Seager, *Excavat. on the Island of Pseira*, 1910, fig. 12. L.M. III specimens: Palaikastro, *BSA*, Suppl. I, 1923, fig. 69, 70. Ligortino, Savignoni, *Mon. Ant.*, XIV, 1904, fig. 120 (= Louvre *c.* 892).

[8] Seager, *The Cemetery of Pachyammos*, 1916, pls. IX, XIV.

[9] *P. of M.*, III fig. 251.

L.M. I.B. is considered to be the acme of this new ' marine ' ceramic style[10] and we think that the flower-pot or rhyton of Varkiza belongs to this prosperous naturalistic period. Many remains of the L.M. I B ceramic class were found in Crete but the only analogous examples known to me, are two fragments of vases both from Knossos: The first, (FIG. 3) is in the Ashmolean Museum, Oxford (Case 5, No. 186, 1910). The other (FIG. 4), is illustrated by Evans, (*PM*, IV, 1, Fig. 239). That of the Ashmolean Museum dates from the L.M. I B period and, so far as can be seen, the decoration is very similar though in a somewhat simpler and more conventional style.

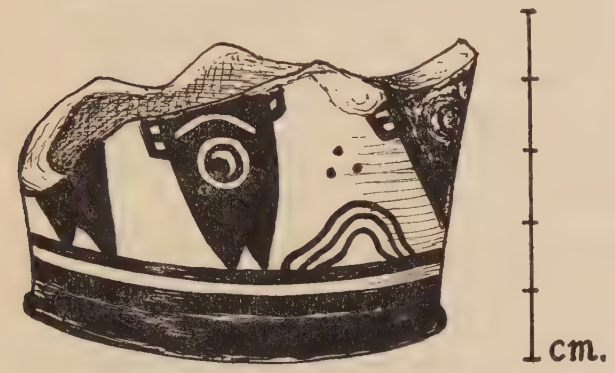

Fig. 3. Fragment from Knossos (L.M.IB. No. 186 (1910)) (Ashmolean Museum, Oxford).

Fig. 4. Part of vessel from Knossos (Evans: Palace of Minos, *IV, I, fig. 239).*

On the other vase, which is more involved in shape and belongs to the L.M. II style, we see an almost exact similarity of the marine elements (the fish are much more likely to be tunny-fish than dolphins, as they have been restored by Evans).

These two examples, apparently coming from the same workshop, are adequate to determine the origin and date of the flower-pot from Varkiza. Thus we may say that the vase is undoubtedly Minoan and may even come from Knossos itself and that it dates from L.M. I B–L.M. II, that is to say, the 15th century, B.C.

But when was it exported from Crete and why was it buried in an Attic tomb? Only suggestions can be made in answer. That it was a matter of trade is not impossible, for the situation of the small southern port of Attica in the neighbourhood of which it has been found, is really convenient for naval communication with Crete. On the other hand, we naturally bear in mind the legendary role of Theseus in the destruction of Knossos and the suggestion that the vase comes from the sack of the Knossian Palace. Chronological difficulties do not exist at all, for the period between the fall of Knossos—at about 1425 B.C.[11]—to the deposition of our vase in the chamber-tomb must be very short, probably one or two decades.

As a poetical suggestion only, we can express the view that our vase decorated some corner of the palace at Knossos as a flower-pot before it became an offering in a small Attic grave.

[10] *P. of M.*, I–IV. Pendlebury, *The Archaeology of Crete*, 1939.
[11] For the date of catastrophe cf. Hutchinson ANTIQUITY, XXVIII, 1954, 164.

Anatolia and the Balkans

by JAMES MELLAART

James Mellaart is Assistant Director of the British Institute of Archaeology at Ankara. He has spent the last ten years in Turkey excavating and making extensive field surveys of preclassical sites, which led to the discovery of numerous hitherto unknown cultures. He has directed three seasons of excavation at Hacilar, an early Chalcolithic painted pottery site in S. W. Turkey, now dated by C14 *to the 6th millennium* B.C.

In this article he describes his misgivings about the conventional dating of Balkan cultures and their correlation with Anatolia and proposes an alternative chronology which reconciles recent radiocarbon dates from the Balkans with new Anatolian evidence. FIG. 1 *gives a key map to the area discussed.*

IN a previous issue of ANTIQUITY (1960, 15 ff), a number of recent radio-carbon dates from the Balkans was published by Professor H. T. Waterbolk. When first communicated these aroused dismay and suspicion on the part of certain European archaeologists and Prof. V. Milojčić went so far as to denounce them as a thousand years too early.[1] Preferring the conventional dates, set forth in his *Chronologie der Jüngeren Steinzeit Mittel und Südosteuropas* (Berlin, 1949), he considers *c.* 2650 B.C. as a reasonable date for the beginning of the Vinča culture. This is more or less the accepted view among east European archaeologists and the date is that assigned to the beginning of Troy I, with which the Vinča, Larisa, Gumelnița and Cucuteni cultures are chronologically equated. On this date or a slightly earlier one, *c.* 2700 (Childe), the whole of the relative chronology of east European cultures in Yugoslavia, Greece, Bulgaria, Rumania and the Ukraine rests.

The new radio-carbon dates would tend to suggest that here there is something fundamentally wrong. A date of 4010 ± 85 B.C. for the end of Vinča A suggests that it began not later than *c.* 4100 B.C.; two dates for late Vinča, 3645 ± 160 and 3380 ± 60 B.C. among others, suggests that the culture came to an end not at the end of Troy V, *c.* 1900 B.C., but sometime around the middle of the 4th millennium B.C. The Cucuteni A date of 3130 ± 80 B.C. again suggests that our conventional dates are much too low.

Before one, however, rejects them out of hand, it would be worth while to reconsider the evidence for dating the Vinča culture, most recently summarized by M. V. Garašinin.[2]

(1) A marble statuette in the Vinča Pločnik phase or late Vinča, possibly imported is compared to those from Early Minoan II Crete.
(2) A type of statuette found at Vinča (9–8 m. level) corresponds to Early Cycladic II–III types.
(3) A pedestalled pot at Vinča (Milojčić, *op. cit.*, pl. 35, ii) is reminiscent of an E.C. II marble vessel from Antiparos (end of which according to Menghin, *c.* 2500 B.C.).
(4) A pedestalled bowl (' identical with Dimini types ') and probably imported, is made of ' mottled ware ', typical of E.M. II.
(5) Vinča Tordos (early Vinča) face lids may be related to those of Troy II, but here the author shows great caution.

[1] *Germania*, 36, 1958, p. 417.
[2] *Hronologija Vinčanske Grupe*, Ljubljana, 1951, p. 190 f.

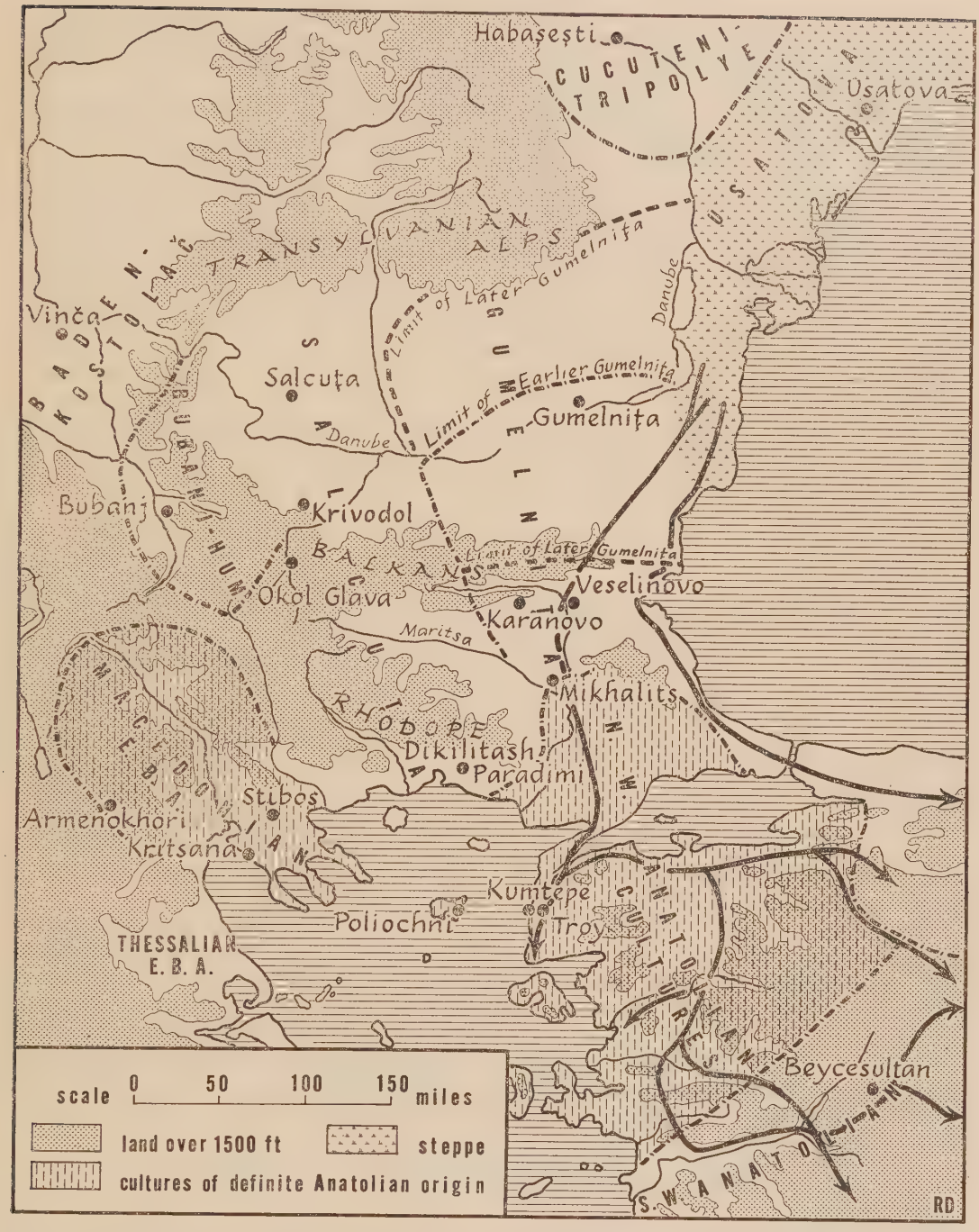

Fig. 1. Composite map showing the distribution of Anatolian E.B.I. cultures and approximately contemporary Balkan cultures. The proposed route of an Indo-European invasion at the end of E.B.2 (i.e. Troy II) period, presumably from the Pontic steppe is shown by black arrows.

Summing up, Garašinin in 1951 dated the beginning of Vinča to the transition of Troy I–II (*c.* 2500–2300 B.C.) or a little earlier, *c.* 2600 B.C. and the transition of Vinča Tordos to Vinča Pločnik to *c.* 2300, the latter ending *c.* 1950/1900 B.C.

Resemblances between statuettes or figurines are exceedingly treacherous. Some found recently at Valač near Priština[3] are almost ' identical ' with those from the deepest level at Hacilar (IX), which according to a radio-carbon date must be near *c.* 5600 B.C.

The chronology of the Cyclades, is, to put it mildly, not firmly based. Is there any reliable stratigraphical evidence from these neglected isles? What, for example, constitutes the E.C. II culture? Do we really have any definite evidence for Cycladic influence in the North Aegean, let alone in Macedonia or Thrace, not to mention Vinča on the Danube near Belgrade? I doubt it. Mottled ware is no chronological criterion by itself. In western Anatolia it can be found from the Neolithic to E.B. 3. Nor are face lids a proper chronological criterion outside Anatolia, where they first occur in late Troy II, *c.* 2400 B.C. Faces on pots, on the other hand, go back to early Troy I (Kumtepe Ic) in the Troad and to the early Chalcolithic at Hacilar (I)![4]

None of these supposed parallels is specific enough to warrant any reliance being placed on them for chronological purposes. The date of Vinča cannot be established by such general resemblances[5] to types and wares in areas of which we have no proof that they were ever in contact with the area of the Vinča culture.

V. Milojčić has recently shown that the Vinča culture is closely related to the Larisa and Rakhmani cultures of Thessaly, which he has now proved antedate the beginning of the Thessalian Early Bronze Age and its equivalent further south, the Early Helladic. The crusted ware of Rakhmani may be compared to that of Vinča Pločnik and to that of the Bubanj-Hum and Salcuța cultures. Rumanian archaeologists stress the link between early Vinča and the early Boian cultures.[6] This disrupts the old equation Vinča-Gumelnița. Garašinin's recent work at Bubanj[7] tends to confirm this view, for here a new culture, Bubanj-Hum Ia develops under eastern influence out of late Vinča, either directly after or overlapping with its latest phases. The Rumanians consider the Sălcuța culture, an eastern and richer form of Bubanj-Hum I as the western equivalent of the Gumelnița culture,[8] developed from Boian ancestry under some foreign influence. Gumelnița would therefore be later in date than Vinča, as the eastern equivalent for which Boian should be considered. It has recently become clear that the Sălcuța culture crossed the Rhodope mountains and reached the northern shore of the Aegean. Its characteristic graphite painted and incised wares have been found at Kritsana, Stibos, Dikilitash and at Paradimi.[9]

At the first site, Heurtley found them associated with Late Neolithic ware, which itself is related to Vinča, but overlaid by Macedonian Early Bronze Age material. Here we therefore find approximately the same sequence in Serbia and Thessaly. Late Vinča–Sălcuța––Macedonian EBA, Larisa–Rakhmani–Thessalian EBA. Now the Macedonian EBA is undoubtedly of Anatolian derivation, and Troy I elements occur on all the Sălcuța sites along the northern littoral of the Aegean. If we could date these Anatolian elements, then we might get at least some fixed point. Unfortunately so little early EBA material has been published from Kritsana[10] that the exact date of the Anatolian colonization cannot be dated with the

[3] *Glasnik Muzeja Kosova i Metohije*, 1957, p. 16, fig. 4.
[4] See ' Excavations at Hacilar, 1959. Third preliminary report.' A S, x, 1960, forthcoming.
[5] So also Childe, *Dawn*, 1957 ed. p. 92 and footnotes 4 and 6.
[6] *Dacia*, 1957, p. 71.
[7] 39*er BRGK*, 1958, p. 53 ff.
[8] *Studi şi Çercetari de Istorie Veche*, VIII, 1957, p. 46.
[9] By D. H. French and writer in 1959.
[10] *Prehistoric Macedonia*, pp. 166–70.

accuracy one might have expected. One thing is clear and that is the absence of early Troy I features. The typical trumpet lugs found in the two lowest building levels at Kritsana are of advanced (middle or late Troy I) type. On the other hand it is not impossible to see in these colonists the people who left the forty or so Troy I sites, burnt or deserted at the end of Troy I. This gives us a fairly wide range (middle to end of Troy I) for the excavations at Troy, and especially at Poliochni in Lemnos, have recently shown the great length of the period.

It is extremely important to note that Garašinin has shown that the development of the Bubanj-Hum Ia culture from Late Vinča was due to influences emanating from the Sofia and Maritsa basins (Sălcuța culture)[11] and not, as was previously thought, to those from the Macedonian EBA, which is purely Anatolian in character.

Further north the Baden-Kostolač culture developed during Bubanj-Hum Ib (and II) and this complex can be dated in a roundabout way by C–14 to *c.* 3200–3000 B.C.[12] Thus a *terminus ante quem* is obtained for the beginning of the Bubanj-Hum Ia, Sălcuța and probably the Gumelnița cultures. In Bubanj-Hum II, contemporary with the Baden culture was found a so-called Minyan grey ware sherd, which Garašinin, though he does not consider it as an import,[13] uses for dating this second phase to the beginning of Middle Helladic, *c.* 1900 B.C. Grey ware vessels with high strap handles of this shape occur, however, at Kritsana and on other Macedonian EBA sites,[14] well before the beginning of Middle Helladic, and a much higher date is therefore not ruled out. In Thessaly they occur in black ware at the beginning of the local EBA and in Anatolia they are found in E.B. 3, *c.* 2300–1900 B.C.

The two-handled jugs of the next period, Bubanj-Hum III seem to me closely related to the late Macedonian EBA vessels from Armenokhori,[15] and the cup of the following Slatina culture need not be late Middle Helladic as Garasinin suggests, but could more likely, in my opinion, be based on an early Troy VI shape (A 94). The whole of the Bubanj-Hum culture could—on Anatolian parallels—be dated within the 3rd millennium B.C.

Bubanj-Hum Ia, Sălcuța and Gumelnița are thought to have developed under eastern influence from an earlier substratum, Vinča, Karanovo II (probably) and Boian. The Karanovo II–Veselinovo culture and its southern equivalent at Paradimi (Komotini) bear strong resemblances to West Anatolian late Chalcolithic (i.e. pre-Troy I) material, even if, as V. Mikov now suggests, it developed from the earlier Karanovo Ib culture.

In support of his theory that eastern influences played a role in the formation of the Sălcuța and Bubanj-Hum Ia culture, Garašinin quotes many parallels among the material from S.W. Anatolia published by me in *AS*, IV, 1954.[16] This we now know from the excavations at Beycesultan to belong to the E.B. 2 (i.e. Troy II) period, but the whole culture has its origins in the E.B. I cultures (Troy I and Yortan) of N.W. Anatolia. It is here, in an area adjacent to that of the Sălcuța and Gumelnița culture in the Maritsa basin—for Mikhalits represents a Thracian variant of Troy I—that the best parallels are found. (FIG. 2) To mention a few; bowls or dishes with thickened rim (C), bowls with roll rim (D), bowls with concave rim (E), inverted rim bowls (A) with or without pedestal are all characteristic N.W. Anatolian shapes and so is the lug often set below the carination. These shapes are current either in the Troy I (A-C) or in the immediately preceding Kumtepe Ib

[11] 39*er BRGK*, 1958, pp. 59–60.
[12] *Germania*, 36, 1958, p. 415 f.
[13] 39*er BRGK*, 1958, p. 64.
[14] *Preh. Mac.*, Cat. 210, 229, 258.
[15] *Ibid.*, Cat. 323–49; pl. XIV–XV.
[16] 39*er BRGK*, 1958, p. 59, note 326.

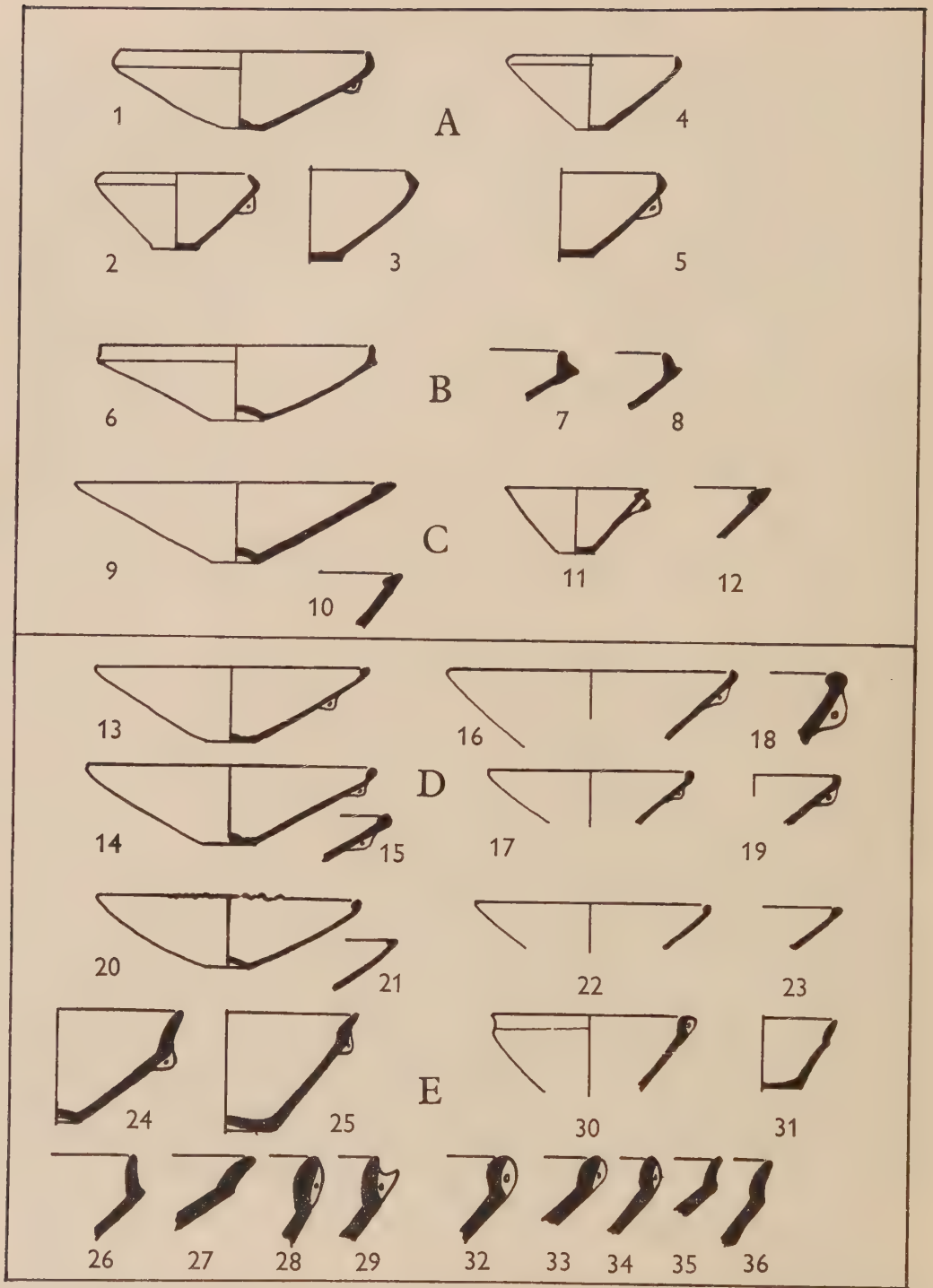

Fig. 2. Comparison of certain Balkan (left) and N.W. Anatolian (right) bowl shapes (not to scale).
See p. 275 opposite for key.

Key to Fig. 2 on opposite page: 1. *Krivodol* (*Sălcuța culture*). 2. *Gumelnița B.* 3. *Gumelnița B.* 4. *Troy I.* 5. *Caicus valley* (*Troy I culture*). 6. *Gumelnița A2.* 7–8. *Caicus valley* (*Troy I culture*). 9. *Okol Glava* (*Sălcuța culture*). 10. *Gorni Pazarel* (*Sălcuța culture*). 11. *Troy I.* 12. *Troy I.* 13–15. *Krivodol* (*Sălcuța*). 16–19. *Balikesir Plain* (*Kumtepe Ib culture*). 20. *Brailita* (*Gumelnița*). 21. *Krivodol* (*Sălcuța*). 22–23. *Balikesir Plain* (*Kumtepe Ib culture*). 24. *Sveti Kyrilovo* (*Gumelnița*). 25. *Okol Glava* (*Sălcuța*). 26. *Bikovo* (*Gumelnița*). 27–29. *Krivodol* (*Sălcuța*). 30. *Balikesir Plain* (*Kumtepe Ib*). 31. *Beycesultan Late chalcolithic.* 32–34. *Balikesir Plain* (*Kumtepe Ib*). 35–36. *Beycesultan Late chalcolithic.*

period (D, E). The incised rims of bowls of type C, found in early Troy I and at Mikhalits are undistinguishable from those of Bubanj-Hum II.

In the Gumelnița culture also, that is in its A2 (post Petru-Rares phase), we find types C–E well represented. Type B now also has Troy I parallels. The *askos* common in the Sălcuța culture is now known from early Troy I deposits at Emporio in Chios and the typical use of graphite paint, may as Garašinin has pointed out, be a Balkan version of the white paint so frequently used in late Chalcolithic and E.B. I western Anatolia.

If one admits Anatolian influence in the formation of the Gumelnița, Sălcuța and Bubanj-Hum Ia cultures of the Balkans, then it can be categorically stated that these influences emanated from North-West Anatolia at about the time that the Troy I culture developed out of the Kumtepe Ib phase, in other words at the beginning of the Troy I period. At no later date, (e.g. Troy II) could the shapes quoted have been transmitted to the Balkans, for unlike the inverted rim bowl (A) and the *askos*, which survived into the E.B. 2 period (and later), bowls of type D and E disappear at the beginning of Troy I and type C did not survive in this form after the end of early Troy I.

It should be pointed out that these innovations in the eastern Balkans were not the result of Anatolian colonization as in Macedonia, but represented the impact of a matured EBA civilization on its northern neighbours. In Anatolian terms, Gumelnița, Sălcuța and Bubanj Hum Ia still look very late Chalcolithic. That the ' urban ' civilization of Troy I–Yortan was in a position to influence its neighbours no one can doubt, and the bridgehead from which such influences spread was undoubtedly Turkish Thrace with such settlements as Mikhalits. The Mikhalits culture itself probably lasted well into the Troy II period, as the *depata* imported at the neighbouring site of Badere show. Contact with the north may therefore have been maintained also during the Troy II period; in the Gumelnița B phase inverted rim bowls with a lug below the rim appear, a type on the whole later in date than the ones discussed before. Turkish Thrace is probably also the basis from which the Karanovo V–Ezero culture spread into eastern Bulgaria to replace Gumelnița (Karanovo IV) there. With Mikhalits it shares rope-impressed patterns, beak-spouted jugs, bowls with inverted rims and tubular lugs, all characteristic Anatolian features. *Askoi* survived and a bowl with teapot spout appeared. The latter are found in metal in late Troy II and in pottery on the Anatolian plateau in the Demirci Hüyük, Polatlï and Ahlatlibel cultures, all dating to the E.B. 2 (Troy II) period. The excavator, V. Mikov dates Karanovo V to the Troy IV period,[17] probably on the basis of one *askos* (D29) from Troy IV, and the presumed lateness of the teapots, e.g. in Crete. These parallels are not convincing, for had the culture really been introduced in the Troy IV period, one could expect some genuine Troy IV shapes and not mainly hangovers from the Troy I period.

[17] *Sov. Arkh.*, 1958, no. 1, p. 54.

The Karanovo V culture is the last found on the many mounds of eastern Bulgaria. Further north the Gumelnița culture developed uninterrupted by Karanovo V elements. Nothing yet has been recognized that could fill the gap in Bulgaria between Karanovo V and the Late Bronze Age, and it is therefore not surprising that there is a tendency to stretch the sequence to fill the gap. V. Mikov however, brings the end of Karanovo V down to *c.* 1750 B.C., in accordance with Childe's dating of the beginning of the Middle Bronze Age, marked by the Indo-European invasion of Greece.

In my opinion, there is no need to go so far. Karanovo V need not be later than Troy II, nor is the absence of a late EBA in eastern Bulgaria so surprising. The Gumelnița culture could have come to an end at about the same time, and the presence of ochre graves and Usatova elements in the Dobrogea, on the edges of the Pontic steppe, which extends up to the Balkan mountains, overlying Gumelnița, strongly suggests that elements from the steppes were responsible for the end of Gumelnița and probably Karanovo V also. A radiocarbon date—one of several, I understand—gives 3130 ± 80 B.C. for Cucuteni A at Habaşeşti. Cucuteni A equals Tripolye B1 and part of the next phase, B2. Briusov holds that the Usatova culture arose on the Pontic steppe—a sort of semi-nomadic metalworking and amber trading Pontic Early Bronze Age, as Childe called it. Its rulers were buried in ochre graves under tumuli and it is these elements which are now generally considered to have spoken Indo-European. If their southward move involving the end of the Gumelnița and Karanovo V cultures took place some time around the end of Troy II, *c.* 2300 B.C., then we may be justified in correlating it to the destruction of Troy II, Beycesultan XIII, Kusura, Tarsus, etc., in fact to the wave of savage destruction which appears to have swept over western and southern Anatolia at the end of the E.B. 2 period *c.* 2300 B.C. and which we associate with the coming of the Indo-European Luvians into southern Anatolia. The destruction and desertion at the end of this period is on a scale unparalleled by the similar upheaval at the end of the Late Bronze Age. The number of sites burnt or deserted has already reached the number of 350, and in the following period not more than one out of every four earlier settlements was inhabited, and often not more than squatted on. Whole areas, such as the Konya Plain and the Pisidian plains south of Burdur revert to nomadism after thousands of years of settled agricultural life, a large scale parallel for what might have happened in Eastern Bulgaria.

This is not the place to dwell upon the ramifications, the results and the possible causes of this catastrophic invasion of western and southern Anatolia, by far the most important historical event that can be deduced from the archaeological record of Anatolia in the 3rd millennium. However one interprets the Balkan evidence, it remains clear that this event had some repercussions there, for it is unlikely that a migration of this force, causing such havoc in Anatolia should not have left a trace of its passage in eastern Bulgaria and southern Rumania. Those Indo-Europeans could hardly have filtered through the Gumelnița and Karanovo V cultures.

The development of the EBA in those regions was thus cut short and it was not till much later that they received a metallurgy, this time from a different direction, Hungary. The Balkans had passed out of the Anatolian sphere of influence. The lack of any discernible contact between 2nd millennium N.W. Anatolia and the Balkans (excluding Greece, of course) and the self-sufficiency of the Troy VI culture offers a sharp contrast to the metropolitan aspects of Troy I and II with their wide flung trading contacts in an earlier period. From E.B. 3 onward the Balkans must have counted as an unreceptive, barbarous hinterland.

We must now return to chronology. A date of about 2300 B.C. for the end of Troy II and of the E.B. 2 period of western and southern Anatolia can be reasonably safely inferred by

Macedonia	Serbia	N.E. Rumania—S. Russia		W. Rumania W. Bulgaria	E. Rumania	E. Bulgaria	Troad
Macedonian M.B.A.	Slatina						Troy VI (M.B.A.)
							1900 B.C.
Macedonian Late E.B.A. (Armenokhori)	Bubanj-Hum III	Intrusive Usatova-Gorodsk	Tripolye C Usatova	Glina-Schneckenberg	Intrusive Usatova—ochre graves		Troy III–V (E.B.3)
							2300 B.C.
Macedonian E.B.A. (Kritsana)	BADEN Bubanj-Hum II	Cucuteni AB and B	Tripolye B2 Usatova	Late Salcuţa	Late Gumelniţa	Karanovo V (Ezero)	Troy II (E.B.2)
	BADEN Bubanj-Hum Ib	**3130 ± 80** Cucuteni A Protocucuteni	Tripolye B1	Early Salcuţa	Early Gumelniţa	Karanovo IV (Early Gumelniţa) Karanovo III	Troy I (E.B.1)
Late 'Neolithic' of Macedonia	Bubanj-Hum Ia						
	3380 ± 60 **3645 ± 160** (D2) Vinča-Pločnik Vinča-Tordos **4010 ± 85** (end of A)	Pre-Cucuteni	Tripolye A	Form of Karanovo II (Paradimi on N. Aegean coast)	Boian	Karanovo II (Veselinovo)	Kumtepe Ib Kumtepe Ia (Late Chalcolithic)
		Zanesti					
		Linear 'Bandkeramik'					
Starčevo (Agropotamos, Galepsos, Stibos, etc.)	Starčevo **4440 ± 75** (Grno Tuzla) **4915 ± 150** (Vršnik III)			Starčevo W. Bulgarian painted pottery	Starčevo (Criş)	Karanovo I (Starčevo)	Besikatepe, Tigani, etc.
							(End of Early Chalcolithic in S.W. Anatolia between 5000 and 4750 B.C.)

Fig. 3. A tentative chronological table. Bold type dates are C14 ones, and are B.C. not *B.P.*

working backwards from known Egyptian and Mesopotamian dates through the synchronisms at Kültepe. Old estimates for the length of Troy I and II (250 and 200 years respectively) were extremely moderate guesses and no more. In view of more recent excavations at Tarsus, Beycesultan, Troy and Poliochni, these are evidently much too low, and even Blegen's early chronology *c.* 3000 for Troy I and 2600 for Troy II may be on the conservative side.

No radio-carbon dates are available for dating the west Anatolian E.B.A., so that a straight comparison with radio-carbon dates from the Balkans is impossible. As the assumed contemporanity of Vinča and Troy I is based on no cogent evidence, it would not really be surprising if Vinča with its early radio-carbon dates were older than Troy I. If, as we have attempted to show, the beginning of Troy I only just antedates that of the EBA cultures of Thrace (Gumelnița, Sălcuța and Bubanj-Hum Ia) then Vinča (and with it Larisa, Late Neolithic of Macedonia, Boian and Karanovo II), is definitely older than Troy and contemporary with at least the later part of the west Anatolian late Chalcolithic (Kumtepe, Poliochni I, Besika Tepe, Beycesultan XX–XL, etc.) The early dates for Vinča are therefore hardly surprising, but if we date it between *c.* 4100 and 3500 (or 3400) B.C., then the conventional date of Troy I, as well as that of the contemporary cultures both in Anatolia and the Balkans, must be pushed back accordingly. This is also suggested by the 'roundabout Baden' and the Cucuteni A dates, which take one back to the late 4th millennium. The necessity for pushing back the date of Troy I from 2750 or 3000 to somewhere nearer 3500 B.C. does not involve any archaeological improbabilities. There are ten building levels at Troy I and three cities follow each other within its span at Poliochni (II–IV). Troy II has as many if not more building levels. Twenty to twenty-two building levels in about 1200 years is quite reasonable and can be compared to the twenty-five building levels of the Late Chalcolithic of Beycesultan, which should fill the gap between the end of Hacilar I (*c.* 5000 B.C.?) and the beginning of Troy I (*c.* 3500 B.C.?) another fifteen hundred years. This would mean an average of fifty-five or sixty years per building level, which seems perfectly in order.

The implications of redating Troy I to the late 4th millennium are, however, most interesting. Not only do they show that there is no real time-lag between the beginning of the West Anatolian Bronze age and that of the secondary Thracian one (or do we still call it a Chalcolithic ?) but they also show that a time-lag between the urbanization of Southern Mesopotamia of the Uruk period and that of 'urban' Troy I does not exist. To suggest time-lags between two parts of the Maritsa plain (Mikhalits and Karanovo or Banjata) is unreasonable, but there was some excuse for not comparing Troy I with the vast city of Warka! Much of this short sketch is undoubtedly both tentative and provocative and it is probably greatly oversimplified. If, by drawing attention to these problems it will do no more than arouse further study and argument, it will have served its purpose.

Figure 3 sets out a tentative chronological table.

The Isleham Hoard, Cambridgeshire

by DENNIS BRITTON

What is probably the largest Bronze Age hoard ever found in Britain came to light on 11 and 12 December, 1959 at Little Isleham. Here, in a preliminary account of the find, Mr Dennis Britton, Assistant to the Professor of European Archaeology in the University of Oxford, discusses the circumstances of the find, and the interpretation of some of the thousands of objects found.

THE Isleham Late Bronze Age hoard was found on the farm worked by Mr Arthur and Mr William Houghton at Little Isleham, in the north-east corner of Cambridgeshire.[1] The Houghton brothers have put it in possession of the Moyses Hall Museum, Bury St Edmunds; and the Curator, Mr A. R. Edwardson, contributes the following account of the discovery.[2]

'On December 11th I received a call from Mr Arthur Houghton, who told me that his brother, Mr. William Houghton, in ploughing a field on the border of the fen, had uncovered a pit which contained a quantity of bronze objects. The sample brought by Mr Houghton included a ring-handle, a palstave, two discs with a loop at the back, two spearheads, and a mount with large teeth like a comb. Realizing that this must be a hoard, I asked him to collect anything else he could find, saying that I should be at the site the next morning. When I arrived it was raining hard and the brothers had emptied a pit about three feet across and the same deep. It had been full almost to the surface with a compact mass of bronzework. At the bottom were parts of a large pot which seemed to have served as a lining of the sides and floor.

'The entire find was put into sacks and taken to the Moyses Hall Museum to be washed and sorted. After washing, the total weight of metal was 165 lb. It was clear from casting-jets and part of a mould that the discovery was a founder's hoard, and the swords and axes showed it to be of the Late Bronze Age.'

In March 1960 it became possible to excavate the area immediately round the hoard. Our aims were to find any pieces of pottery or bronze left in the ground, to clear the pit, and to look for signs of any activity, such as smithing, near the deposit. A rectangle 15 by 20 ft. was opened and all the soil sieved. The rate at which finds of pottery and bronze decreased away from the pit was recorded and suggests that only a few fragments have not been recovered. Over 2700 pieces of bronze were found, to add to the 3800 of the original discovery. The pit had been cut 14 in. into the chalk, which lay directly below the plough-soil. Its floor was just over a foot across, with the impression of the pot still clear. Within the area excavated were patches of an old soil and a ditch, with traces of human activity—a flint industry, quantities of fire-crackled flints, and a few scraps of pottery. But none of this could be connected with the hoard, and it is too meagre to be dated on its own account. No evidence of smithing was found.

[1] British National Grid 52/635728.

[2] Cf. *Cambridge Daily News*, 8 January, 1960, p. 14.

The hoard consists of over 6500 pieces of bronze and weighs about 200 lb. Of the finished objects, very few are intact, and the number of unfinished castings is small. The bulk is made up of fragments of weapons, tools, and ornaments, together with great quantities of raw metal in the form of broken slab (2624)[3] (PLATE XXXVI (3)) and the by-products of bronze-casting (53). Most of the things are broken not just through wear and tear but by deliberate smashing as well, as if for melting down. Of many objects only one or two small pieces can be found. The likely explanation is that we have the stock, or part of it, from which the smith would draw as much as he needed for work on hand. The many tiny fragments and splashes imply a scrupulous collection of waste, and show how carefully the stock was kept, probably in bags or boxes. The size of the hoard testifies to production on a large scale. Analyses[4] have revealed that leaded bronze was the regular alloy, here as generally in the Late Bronze Age of Southern England.[5]

Pottery. The pieces of pottery are too few for reconstruction. The paste is hard and rather gritty, with flint tempering; its colour varies from buff to grey. The rim was thick and flattened; there was at least one strap-handle, and above the base, which was about $8\frac{1}{2}$ in. across, was a row of small holes. No good parallels can be cited.

Weapons. Among many fragments of swords (296) can be identified twelve examples of the ' Wilburton ' type[6] (PLATE XXXVI (1)). This has a leaf blade, straight or slightly convex shoulders, each with one or two rivets, notched ricasso, and grip flanged and slotted, without pommel-tang. Other hoards with such swords are known from at least two regions: East Anglia[7] and Hampshire.[8] These share the types of Dr Savory's ' Wilburton complex ' so consistently as to form a distinct group.[9] Isleham too has the rest of this complex: tongue chapes (1764), tubular spearbutts (46), and lunate spearheads (several). The other spearheads (420) include all the remaining forms in the Wilburton hoard. Dr Savory has indicated ' Atlantic ' sources as the background to this industry, whose main centres were in southern Britain. He suggests that it should largely precede the other major tradition in the Late Bronze Age of this area, which might be named the ' Bexley Heath industry '.[10] This, in contrast to the armament of the Wilburton group, has swords of native Bexley Heath type,[11] intrusive carp's-tongue swords, and purse chapes, while tubular spearbutts and lunate spearheads hardly ever occur. Hoards of the Wilburton group do occasionally include types from other traditions, and these hint at some overlap in time between that group, the full Late Bronze Age of Ireland,[12] and some aspects of the Bexley Heath industry.[13]

[3] The figures in brackets after each category are the totals of complete examples plus fragments.

[4] By the Oxford Research Laboratory for Archaeology and the History of Art; of 33 analyses, 32 showed leaded bronze.

[5] M. A. Smith and A. E. Blin-Stoyle, *Proc. Prehist. Soc.*, XXV (1959), 188–208; simple tin bronze was standard in our Middle Bronze Age.

[6] J. D. Cowen, *Arch. Aeliana*, 4th series, X (1933), 197–8.

[7] E.g. Wilburton (Cambs.); J. Evans, *Archaeologia*, XLVIII (1885), 106–14; and C. Fox, *Archaeology of the Cambridge Region* (Cambridge, 1923), 58–61, pl. X.

[8] E.g. Andover: *Proc. Soc. Ant.*, 2nd series, XXVI (1913–1914), 32–33, pl. opp. 32.

[9] *Arch. Cambrensis*, CVII (1958), 28–34.

[10] After the hoard: T. D. Kendrick and C. F. C. Hawkes, *Archaeology in England and Wales:* 1914–1931, (London, 1932), 124–7, 133–4, pl. XIV; *Inventaria Archaeologica, Great Britain*, 8th set (London, 1960), GB. 53.

[11] J. D. Cowen, as note 6, 190–8.

[12] E.g. Guilsfield (Montgomery), with ' Irish ' socketed axes; cf. H. N. Savory, as note 9, 32–33.

[13] E.g. Congleton (Cheshire), with a ribbed socketed axe; cf. T. D. Kendrick and C. F. C. Hawkes, as note 10, 131, pl. XIII, 1.

Tools. Of the six socketed axes whose form is certain, only one is of the usual Late Bronze Age kind, and is plain except for three mouldings at the mouth. The rest are ' indented ' socketed axes (PLATE XXXVI (2)). This is another type of the Wilburton group, at least in eastern England, and recurs in the ' Atlantic ' Late Bronze Age, for example in south-west France.[14] But it is almost absent from Bexley Heath hoards, where the commonest forms are the plain axe again, and those with a selection from a wide repertory of plastic ornament. The palstaves (28) are all in the tradition of our Middle Bronze Age, even to the style of decoration below the stop-ridge. But they are of the specifically Late Bronze Age form.[15]

Besides axes, and single-edged (2) and two-edged (51) knives, all of which might count as general purpose tools, there is more specialized equipment. Medium and broad socketed gouges (12), a tanged chisel, and a possible reamer suggest carpentry. Metal-working is indicated by part of a bronze mould for palstaves, two kinds of socketed hammer (10) (PLATE XXXVI (5)), and what seem to be draw-plates for making fine wire (3) (PLATE XXXVI (4)). In addition there are open-socketed ' sickles ' (7) and Class II razors (3).[16] Part of this range is known to have been current already before the end of the Middle Bronze Age, as recently defined by Miss M. A. Smith.[17] There we find, for example, two-edged knives (Barton Bendish, Norfolk[18]), and hammers of both the Isleham forms (Burgesses' Meadow, Oxford[19]; Taunton Workhouse, Somerset[20]). From her succeeding ' transitional ' phase there is in the Downham Fen hoard (Norfolk)[21] a socketed sickle quite like those from Isleham. The associations we have suggest a gradual augmentation of the tool-kit.

Bronze Vessels. Tantalizingly small fragments are all that remain of bronze vessels. They appear to have been of sheet metal (19) joined by flat-headed rivets (10), with ring-handles (7) riding in ribbed staples (7). One staple, still with its ring-handle, and part of a second, have been cast on to pieces of bronze sheet with horizontal corrugations. These probably come from a cauldron (or cauldrons) of Leeds's Class A.[22] The recent detailed study of such vessels by Professor C. F. C. Hawkes and Miss M. A. Smith[23] has confirmed the idea of their Mediterranean ancestry. They argue for a fairly rapid transmission from the classical world, and the hope therefore arises of giving the British versions a close absolute date. This might well be about 750–700 B.C. So far nothing has been recognized among the Isleham material to suggest any very different date for its deposition.

Personal Ornaments. Bracelets are represented only by fragments too small to make certain the original form (about 23). Some might be in the tradition of simple bangles already seen in the Middle Bronze Age,[24] but the more elaborate varieties of that period are absent. Others hint at fresh contacts with the Nordic province, notably what may perhaps be part of an ' Armring mit kreisförmiger Erweiterung', a type of Montelius V[25] (PLATE XXXVI (8)).

[14] H. N. Savory, as note 9, 30–31; C. Fox, as note 7, 58.
[15] Cf. M. A. Smith, *Proc. Prehist. Soc.*, XXV (1959), 176.
[16] Cf. C. M. Piggott, *Proc. Prehist. Soc.*, XII (1946), 121, 126 ff.
[17] As note 15, 144–87.
[18] *Inventaria Archaeologica, Great Britain,* 1st set (London, 1955), GB. 7, 1.
[19] *Inv. Arch., Great Britain,* 1st set (London, 1955), GB. 6, 6.
[20] *Inv. Arch., Great Britain,* 7th set (London, 1959), GB. 43, 15.
[21] C. Fox, as note 7, pl. VIII, 2 c; cf. C. Fox, *Proc. Prehist. Soc.*, V (1939), 223 ff.
[22] *Archaeologia,* LXXX (1930), 4 ff.
[23] *Antiq. Journal,* XXXVII (1957), 131 ff.
[24] Cf. M. A. Smith, as note 15, 146 ff., e.g. fig. 2, 3 and 10, on 147.
[25] E. Sprockhoff, *Jungbronzezeitliche Hortfunde (Periode V)*, I, (Mainz, 1956), 195–8; cf. II, Taf. 46.

Decorative Fittings. This class includes some of the most remarkable material at Isleham, and luckily there is a wide range of complete examples. Their exact use must often remain uncertain, but some are very likely to have been parts of dress or horse-harness, for instance the group with loops at the back for attachment. This comprises buttons, flat (2), convex (21), and domed (24) (PLATE XXXVI (7)); discs with stepped profile, that recall in a general way some Continental ' phalerae '[26] (PLATE XXXVI (6)); and oval (1) and triangular (3) mounts. Small rolls of sheet bronze, often pinched at one end, look very like the tags of laces (22). More puzzling is a group of ornate pieces with one end open and the other closed except for an oblong slot. Most are in openwork and are rather narrow (14); they would do well as strap-ends (PLATE XXXVII (2)). The finest, with large triangular teeth, is much wider, about the width in fact of the sheet bronze belts of Hallstatt times (PLATE XXXVII (1)). Many of these forms are quite new to our Bronze Age.

' *Horse and Cart* '. The mention of horse-harness is given real point by the presence of bridle cheek-pieces (3),[27] (PLATE XXXVII (5)), and annular (7) and cruciform (4) ' strap-crossings '[28] (PLATE XXXVII (3)). The horses are more likely to have been for draught than for riding. Can we identify anything of the vehicles? Admittedly nothing for certain, though there are double loops (3) that may be terrets (PLATE XXXVII (4)).

Conclusion. The Isleham hoard provides a mass of evidence for the history of Late Bronze Age metal-working in the south of England: it amplifies enormously the content of the Wilburton industry; its highly skilled smithing techniques are of more than provincial interest; and it gives the hope of correlations with other styles of bronze-working, here and abroad. Finally it points beyond the study of typology and association, even beyond the consideration of technology and economy. Here, about the end of the 8th century B.C., is a combination unprecedented earlier in Britain: the large-scale production of weapons, the use of horses for traction, a variety of exuberant display in ornament, large and elaborate vessels of bronze. For a moment we are given a glimpse behind the curtain: we see the struttings of martial leaders and many of the trappings of a ' heroic age '.

ACKNOWLEDGEMENTS

I should like to thank G. de G. Sieveking, of the Department of British and Medieval Antiquities, the British Museum, for giving me news of this discovery; A. R. Edwardson for generous help with every facility for study of the hoard; A. and W. Houghton for allowing us to excavate; the Director, Dr E. T. Hall, and staff of the Oxford Research Laboratory for Archaeology and the History of Art, for analyses; and Professor C. F. C. Hawkes, for much kind encouragement and generosity in scholarship. The excavation was done jointly by the writer with A. R. Edwardson and I. H. Longworth, with much valued assistance from R. E. Linington, J. May, and M. S. Tite.

[26] Other ' phalerae ' in Britain: C. F. C. Hawkes and M. A. Smith, as note 23, 155–6; also cf. E. Sprockhoff, *Jungbronzezeitliche Hortfunde (Periode IV)*, (Mainz, 1937), 52, Taf. 21, 5.

[27] With perforations in *two* planes; cf. C. F. C. Hawkes and M. A. Smith, as note 23, 156.

[28] For the principle, cf. T. G. E. Powell, *Arch. Journal*, CV (1948) 32–34.

(*a*)

(*b*)

EDITORIAL

(*a*) *Sheep at Tête de Longet* (*3,059 m.*), *returning in the autumn from their long transhumance, to St-Véran* (*2,050 m.*).

(*b*) *Transhumance in progress—a sight typical of much of Mediterranean Europe.*

See p. 244]

(a)

(b)

A BYZANTINE PALACE AT APOLLONIA

(*a*) *Courtyard of Palace during excavation* (*March, 1959*).
(*b*) *The same after* anastylosis (*February 1960*).

See p. 253]

(*a*)

(*b*)

A BYZANTINE PALACE AT APOLLONIA

(*a*) *Fallen north arcade of courtyard, as found.* (*b*) *The same after* anastylosis.

See p. 253]

(*a*)

(*b*)

A BYZANTINE PALACE AT APOLLONIA

(*a*) *North wall and doorways of Chapel, as found.* (*b*) *The same after* anastylosis.

See p. 252]

(*a*)

(*b*)

A BYZANTINE PALACE AT APOLLONIA

(*a*) *Interior of Chapel during excavation, showing marble reliquary, as found (May 1959).*

(*b*) *The reliquary, now in Apollonia Museum.*

See pp. 252–3

(*a*)

(*b*)

A BYZANTINE PALACE AT APOLLONIA

(*a*) *Lid of reliquary* (*cf.* PLATE XXXIII (*b*)), *showing* (*top to bottom*) *orifice for holy oil, recess for inlaid metal cross, flanking holes for securing lid to body.*

(*b*) *Ravenna, S. Apollinare. Mosaic depicting Theodoric's 'Palatium'* (*Photo. Anderson*).

See pp. 252–5]

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(*b*)

(*c*)

(*a*) *The ' flower-pot ' from a Mycenaean chamber-tomb at Varkiza. It is 18.7 cm. (approximately* $7\frac{3}{8}$ *in.) high, including the handles.*

(*b*) *L.H.IIIA vase from the same tomb (scale in cm.).*

(*c*) *L.H.IIIB vase from the same tomb (scale in cm.).*

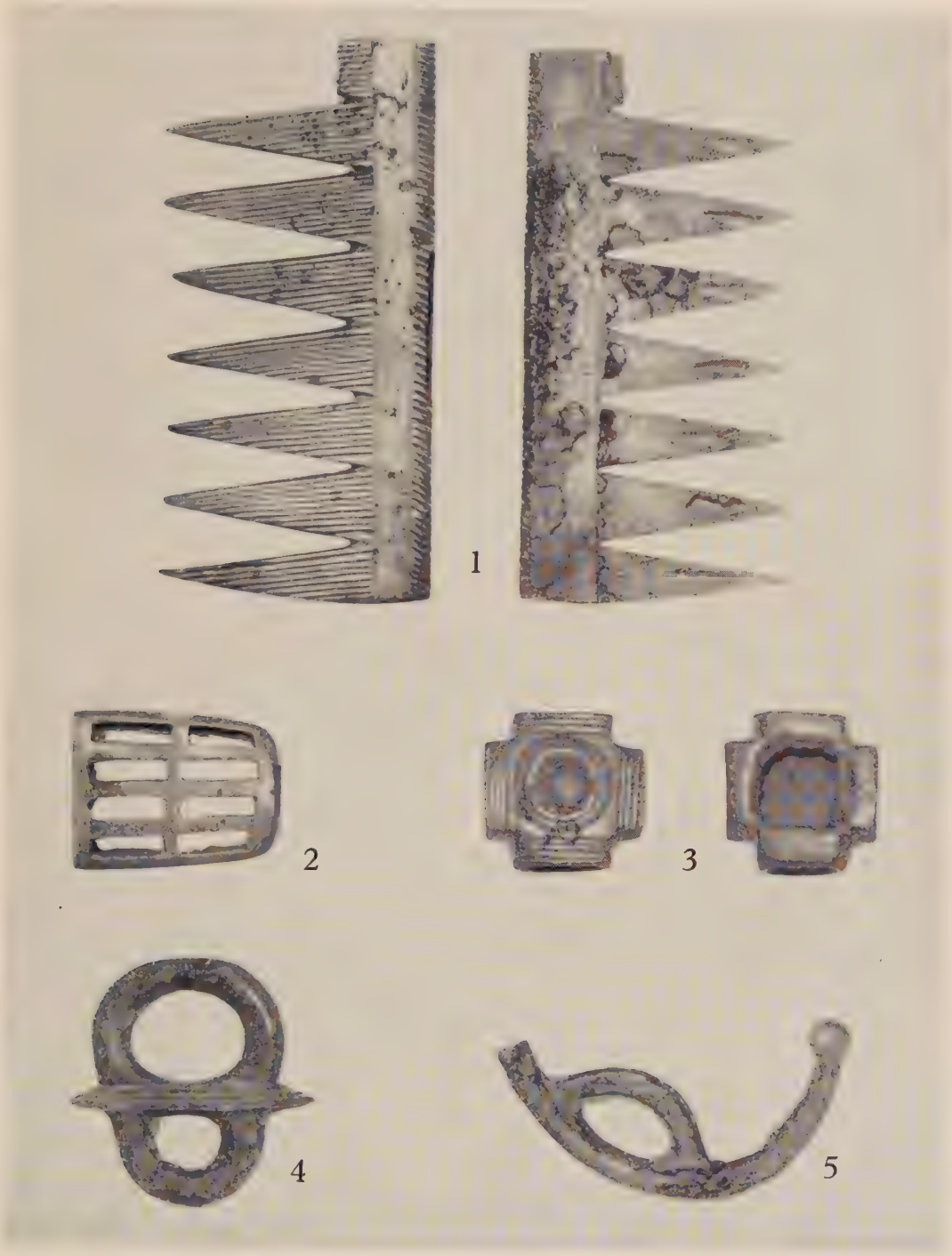
A KNOSSIAN VASE FROM ATTICA

See pp. 266–9]

THE ISLEHAM HOARD, CAMBRIDGESHIRE

A selection of objects from the hoard. Scales: 1, 2: *3/5;* 3, 4, 5, 8: *4/5;* 6, 7: *7/10;* 9: *3/4.*

See pp. 279–82]



THE ISLEHAM HOARD, CAMBRIDGESHIRE

A further selection of objects from the hoard. Scales: all at 3/4.

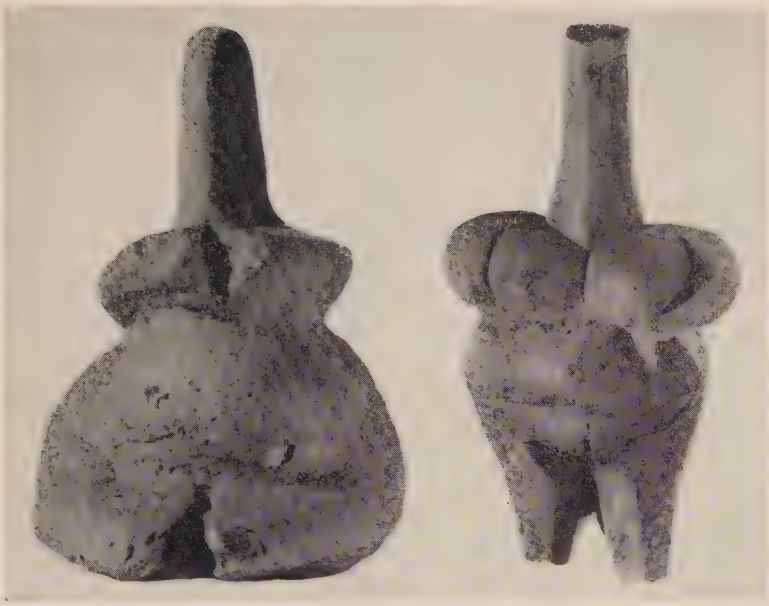
See pp. 279–82]

NEOLITHIC FIGURINES FROM RUMANIA

(a) and (b) Front and side views of Figurine I, a woman, 11.4 cm. high (Type C). (c) and (d) Front and side views of Figurine II, a man, 11.5 cm. high (Type D). Both were found at Cernavoda cemetery on the Danube.

See pp. 283–4]

(*b*)



(*a*)

NEOLITHIC FIGURINES FROM RUMANIA

Two female figurines from the Hamangia culture from Cernavoda (*a*) *Type A*, (*b*) *Type B.* (*Not to scale.*)

See pp. 283–4]

(*c*)

POTTERY 'ANCHORS'

These from Bahrija, Malta, show grooves apparently made by thin threads.

See p. 295]

[*Photo:* J. M. Spiteri.

(a)

(b)

THE CHURCH AT ACHTHAMAR

(*a*) *The Church of the Holy Cross from the S.*

(*b*) *Frieze on S. side of E. apse. David fights Goliath, separated by a ram. Samuel, in the medallion, intercedes to save David from Saul.*

(c)

(d)

(*c*) *W. side of N. apse, left to right: Garden of Eden; S. Theodore, S. Sergius and S. George, lancing a dragon, a panther and a man, respectively; David tearing the jaws of a lion; a lion attacking a neat; the three in the fiery furnace. Medallions include Amos and S. Guiragos.* (*d*) *S. side of W. apse, left to right: Legend of Jonah; Sacrifice of Isaac; Moses receiving the Law; Virgin and Child enthroned.*

[*Photos:* P. H. Nelson.

See pp. 295–7]

Neolithic Figurines from Rumania

by D. BERCIU

Professor Berciu, of the Institute of Archaeology in Bucharest, here writes of two remarkable pottery figurines found in a cemetery of the Neolithic Hamangia culture at Cernavoda in East Rumania four years ago. A fuller account of these figurines is being published in the issue of Dacia *now in the press.*

IN 1956 two interesting figurines, unique of their kind, were found in an inhumation grave of the Hamangia Neolithic culture in the Cernavoda cemetery on the Danube thirty miles west of Constantza (PLATE XXXVIII).[1] These figurines are of pottery: they are black in colour with a burnished slip. Figurine I (PLATE XXXVIII (*a* and *b*)) is 11·4 cm. in height; it represents a woman seated on the ground, the left leg outstretched and the right leg bent. With her hands she grasps her right knee. The neck is straight and the face triangular: on top of the head is a cut probably for fitting in a tuft, topknot or pompom. The eyesockets are triangular and have held white filling. The pectoral muscles are well developed and take the place of the breasts. The abdomen and hips are exceptionally developed. The back is flat as is characteristic of Hamangia plastic art—with the exception of Figurine II from Cernavoda. Figurine I is clearly that of a very fat woman, and reminds us at once of the Neolithic figurines from Malta,[2] and the Neolithic–Chalcolithic art of the East Mediterranean in general.

Figurine II (PLATE XXXVIII (*c* and *d*)) is also made of pottery: it is 11·5 cm. in height and represents a man seated on a low four-legged stool with notched edges. The man's back is markedly and elegantly curved; his elbows rest on his knees and his hands support his head. The modelling of the face and head is similar in technique to that of Figurine I, except of course that Figurine II is that of a male, and has no incision on top of the head. The body is slim: the arms and the facial features, and for that matter the representation of all the bodily features, is done economically and in a simplified manner.

Figurine II is unique not merely in the plastic art of the Hamangia culture of Rumania but in Neolithic art as a whole. To date one other example similar to Figurine I has been found (though in a broken condition) also from a grave in the Cernavoda cemetery.

It is now possible to make a preliminary classification of Hamangia figurines and to distinguish four types, of which the first three (A to C) are female, and D is male. Type A (PLATE XXXIX (*a*)) is standing, and Type B (PLATE XXXIX (*b*)) is seated: there are many examples of both these types: Type C is represented by our Figurine I and Type D by our Figurine II; Types A and B date from the same time; Types C and D are synchronous, and date from Hamangia IV, a phase which really brings to an end the evolution of the Hamangia culture[3] properly speaking—Hamangia V representing a transition to the Dobrogea (Dobruja) variant of the Gumelnița culture. This culture is encountered up to the present only in the Dobrogea but in 1958, while working in Bulgaria, I noted traces of the Hamangia culture in the neighbourhood of Burgas, at Kableskovo in the district of Pomorie.[4]

[1] A detailed study of these figurines has been published by the author in *Dacia* (New Series, IV) at present in the press.

[2] R. Battaglia, *IPEK*, 1927, 138 and pl. 46, 9.

[3] For the first account of the Hamangia culture see *Nouvelles Études d'Histoire* (Bucharest), 1955, 29.

[4] The material is in the Museum at Burgas.

The origin of the Hamangia culture lies in the Aegean–East Mediterranean area, and ultimately in the Near East. In Rumania the Hamangia culture lasts until the commencement of the Gumelnița in the Dobrogea, and is contemporary with the Boian of Bulgaria and north of the Danube.[5] Some of the features of the Hamangia culture are to be correlated with elements of Vinča A and B, and of Starčevo-Criş (Körös) but it would appear to be even older than this and be earlier than Troy I.[6] We have a Carbon 14 date of around 3600 B.C.[7] for a middle phase of the Hamangian.

The plastic art of the Hamangia culture is closely paralleled by the Cycladic marble figurines and by those of Thessaly. Attention has already been drawn to parallels in the Kourgan of U1 near Maikop in the Caucasus[8] and this may also indicate the diffusion of the ' cardial ' ware culture of Anatolia to the north of the Caucasus towards the Pontic steppes from which area perhaps came the people of the Hamangia culture of the Dobrogea. The pottery female figurines of the Hamangia culture could be the prototypes of the stone figurines of the Gumelnița culture: in fact, two marble idols are known from the Hamangia culture itself.

To return to the two figurines described in this article, we must ask what do they mean and what is their purpose. Obviously, the art of the Neolithic people cannot be understood if divorced from the society that created it, together with the accompanying religious beliefs and magical practices. In interpreting these two figurines we must first take account of this magico-religious aspect. They belong to rites of fecundity and fertility practised by groups of farmers and herdsmen who lived in a matriachal society. Another aspect of their interpretation should be related to the Neolithic family structure. From this point of view, it is significant that the two figurines represent one man and one woman of apparently the same age. From another point of view, as these two figurines were found in the same tomb[9] one must infer—if we give proper weight to the evidence of ethnographical parallels—that they must also contain some information for us about the ideas held by their makers about death and the after-life. Surely we may see in these figurines a faithful picture of the life of Neolithic man, which shows that in his portrayal of himself and the world around him he had a much deeper and wider perception than we had hitherto thought. The Neolithic people who made these figurines show that they were capable of understanding and reproducing through the plastic arts, very complicated and profound mental concepts. The male figurine shows a man deep in thought. Is it too extravagant to call it a ' thinker ', in the literal sense of the word: and could it be, at long remove, the precursor of Rodin's *Penseur*? One could say yes, at least from one point of view. But we must keep in mind too the state of the development of thought when these figurines were made, and most of all the fact that prehistoric art was not primarily done for aesthetic reasons but was utilitarian art, related to daily needs and an art that might always be directly confronted with the realities of everyday existence. Because of the complex abstract content of these figurines (perhaps, we suggest, even more important than their typology) and their characteristic primitive realism, we may justly claim them as among the finest works of Neolithic representational art.

[5] The point at issue is its relation with the Boian culture of Bulgaria, which is found only between the Balkans and the Danube. To the south of the Balkans there is no Boian culture, but only excised pottery done in the style of Boian ware.

[6] According to the recent Trojan chronology proposed by J. M. Mellaart, *Anatolian Studies*, 1959, 165. The Neolithic chronology of Rumania supports Mellaart's proposals.

[7] Determined in the Laboratory at Groningen.

[8] Maria Gimbutas, *The Prehistory of Eastern Europe*, 1956, 54 and fig. 25.

[9] The figurines of the Hamangia culture have been found both in tombs and houses, as have the figurines of the Gumelnita culture, and those found in Asia Minor.

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Neolithic and Bronze Age in East Europe

by STUART PIGGOTT

Professor Piggott, of the Department of Prehistoric Archaeology in the University of Edinburgh, recently visited three Eastern European countries as a member of an archaeological delegation consisting of himself, Mr T. G. E. Powell, Miss N. K. Sandars and Mr J. D. Cowen. He here describes some of the new work carried out in certain aspects of prehistory.

IN April–May, 1960 a small party of British prehistorians was able to make a study-tour, sponsored by the British Academy, in the Peoples' Republics of Hungary, Rumania and Bulgaria. The visit was necessarily hardly more than one of reconnaissance, to acquaint ourselves at first hand with the main museum collections (and, where possible, significant sites in the field), to meet the prehistorians working there with a view to discussing with them problems of common interest, and to learn of the recent work being carried out in the three countries. Thanks to the unstinted co-operation of the Academies of Sciences and Institutes of Archaeology concerned we were in fact enabled to see a very great deal in a comparatively short time, and it is pleasant here to record our gratitude to all those institutions and individuals who helped us at every turn. My interests lay more particularly in the Neolithic and Bronze Age, and in this article it is to these phases of East European prehistory that attention is directed.

Some of the post-war work in these fields had been made use of by the late Professor Childe in the last (1957) edition of his *Dawn of European Civilization*, following a tour he made in Eastern Europe shortly before his death. As British prehistorians conscious of our great debt to him, we could not but mark with gratitude the enormous regard in which Childe's work was held wherever we travelled. Since his last tour, we were the first prehistorians from this country to visit the places he knew so well, and we inherited the goodwill he had so universally aroused.

Our itinerary began in Hungary, where we were able to study in the National Museum and the Institute of Archaeology in Budapest, and in provincial museums including those of Szeged, Hódmezövásárhely and Szentes. Here, too, we were able to visit the famous Bronze Age ' tell ' of Tószeg. In Rumania, we began our tour in Cluj, with its Archaeological Institute and Museum, thence to Bucharest, with the Institute, the National and other archaeological museums, and also the Institute and Museum at Iaşi. We also visited sites in the field including that of Monteoru in the Carpathian foothills. In Bulgaria, we were based on the Archaeological Institute and National Museum in Sofia, visiting also the museums of Plovdiv and Stara Zagora, and the Neolithic and Copper Age ' tell ' of Karanovo.

The Hungarian National Museum is in the process of reorganizing its display galleries, and the great prehistoric collections are not yet on public view, though accessible to us in the reserves. Our knowledge of the Neolithic sequence of the Great Hungarian Plain, beginning with the Körös Culture already studied by Dr I. Kutzián,[1] and continuing with the Bükk and Tisza Cultures, has been increased by new discoveries and work upon the last of these.

[1] I. Kutzián, *The Körös Culture* (Diss. Pann., XXIII, 1947).

Dr Kutzian has recently excavated a site at Csöszhalom contemporary with the Tisza Culture, with a radio-carbon date of 3647 ± 60 B.C. The collections at Szeged, Hódmesövásárhely and Szentes are of particular importance: the mixture of Tisza, early Vinča, Danubian I and even Körös elements in the Lebö Island site shows to what degree overlapping of cultures must be recognized.[2] The remarkable anthropomorphic pots from Kökénydomb (where also decorated plaster pargetting of the houses was found)[3] have now a counterpart in the striking figurine of a seated man holding a scimitar-shaped object from Dr Csalog's excavations at Tüsköves near Szentes.[4] Here too one may note the pots smeared with birch-bark pitch to render them water-tight, and the presence not only of small copper beads but of a bone comb, the teeth of which appear to have been cut by a metal saw. It has been more than once suggested that the elaborate incised patterns on Tisza pottery are skeuomorphs of motifs proper to textiles and basketry, and a burial from Tüsköves preserves a fragment of such patterned matting against its skull. In Transdanubia, Dr János Dombay has just published a monograph on the excavations of the settlement and cemetery of the Lengyel Culture at Zengövárkony, with houses of Danubian I type with other post-structures and pits.[5] Unfortunately the interpretation and discussion of the houses are based on the views of Buttler and Harbery as set out in their Köln-Lindenthal report, without reference to the more recent and more convincing interpretations by Paret, Stieren and Sangmeister.[6]

Dr Kutzián has in preparation a monograph on the Copper Age cultures of Hungary. She distinguishes three main phases, Copper Age I being represented mainly by the Tiszapolgar Culture of the Hungarian Plain, and approximately contemporary with a late phase of Lengyel in Transdanubia. Copper Age II is the equivalent of the Bodrogkerestur Culture of the Plain, and both phases are characterized by shaft-hole copper axes, though the shaft-hole axe-adzes (often very massive and up to nearly a foot in overall length) are found only in Phase II, together with flat, narrow copper axes, often with markedly hammered butts, and sometimes with a plano-convex section suggesting casting in an open mould. These shaft-hole tools, as was demonstrated some time ago in this country by Coghlan and Childe,[7] could have been cast in closed moulds. Flat tanged daggers, awls and twisted pins with flattened and hooked heads in copper also occur. In Copper Age III, the Baden or Pécel Culture, which has been described by Professor János Banner in his recent monograph, has a less rich copper equipment and the shaft-hole tools virtually disappear.[8] Nevertheless, the Alsonémedi burials and the Buda-Kalász cart model indicate the likely appearance of important new cultural traits in this phase, possibly connected with Indo-European language movements.[9]

These massive shaft-hole axes and axe-adzes, which form such a striking feature of the Hungarian Copper Age (with its extensions into what is now Slovakia and Rumanian Transylvania) pose an immediate problem. In general, one is inclined to look to Anatolia as a likely point of origin for the types, although precise parallels are hardly forthcoming:

[2] O. Trogmayer, *Evkönyve a Mora Ferenc Mus. Szeged*, 1957, 19.

[3] J. Banner in *Germania*, XXXVII (1959), 14 (pots); *ibid.*, *A Kökénydomb neolithikori telep* (1931), pl. II; *Hódmezövásarhely története a honfoglalás koráig* (1940), pl. XLVI; *Prähist. Zeitsch* XXI (1930), 184.

[4] *Acta Arch. Hung.*, XI (1959), 7.

[5] J. Dombay, ' Die Siedlung un das Gräberfeld in Zengövárkony ' (*Arch. Hung.*, N.S. XXXVII, 1960).

[6] Cf. *Bericht R-G Komm.*, XXXIII (1943–50), 61, 81.

[7] H. H. Coghlan, *Journ. Royal Anthrop. Inst.*, LXXIII (1943), 52; *ibid.*, *Notes on Prehist. Metallurgy of Copper and Bronze* . . . (1951), 56; Childe, *Univ. Lond. Inst. Arch. Ann. Reports*, VII (1951), 44.

[8] J. Banner, ' Die Péceler Kultur ' (*Arch. Hung.*, N.S. XXXV, 1956). Note too the recent studies of P. Patay in *Arch. Ertesitö*, XXXV (1958), 37; *Acta Arch. Hung.*, IX (1958), 141; *Slovenská Arch.* VI-2 (1958), 301.

[9] Childe, *Dawn* (1957), 124; cart model also in Thomas, *Arch. Funde aus Ungarn* (1957), 78.

the North Pontic area too cannot be ignored. On any chronological system a date in the 3rd millennium B.C. is required, and perhaps early rather than late. The industry producing these standardized types in large quantities must of course be related to the exploitation of local ores in Transylvania, and one is struck by the utilitarian character of these massive tools, which must surely be related to some relatively sudden development involving tree-felling and carpentry on a large scale.[10]

But this precocious copper industry appears to have died out without leaving immediate descendants in East Europe. In the Hungarian sequence we now come to the first of Dr Amalia Moszolics's division of the Bronze Age[11]: her Ia, or Early Nagyrév phase. This culture, known only from cemeteries, can be equated with late Bell Beaker cultures (with which it shares types such as the braced and the triangular riveted copper or bronze dagger), and with that of Vučedol. It is followed by Ib, the ' classical ' Nagyrév culture, which forms the earliest element found at the basal levels of the ' tells ' such as Tószeg itself, or at Koziderpadlás; little is known of the metal industry, but the pottery types are a development of Ia.

In Hungarian Bronze II, the Hatvan phase, or Tószeg B (Tószeg A being Bronze Ib, or Nagyrév) we have some continuance of the pottery types of Ib, but also new forms and ornament appear. Dr Moszolics considers that the culture known from cremation cemeteries such as that of Kisapostag[12] should also belong to her Bronze II phase, though perhaps beginning in Ib. Kisapostag has bronze types of racquet-pins and double-spiral wire ornaments which would equate it with such cemeteries as Straubing or Gemeinlebarn in South Germany and Austria.[13] In Hungary it is noticeable that the graves of the Kisapostag culture containing bronze objects are almost wholly confined to those close to the Danube itself, implying its use as a thoroughfare whereby the products of Central European metallurgy in the Reinecke Ai phase were traded into Hungary—the two small ingot torques from Hatvan itself may be significant in this regard.

With Bronze III, the Füszesabony phase, we enter an extremely important period of East European prehistory, for it is to this culture that the well-known bone and antler objects bearing ' Mycenaean ' ornament first appear in Hungary. Most of the pieces are now accessibly published, together with the Czechoslovakian counterparts in Věteřov and related contexts,[14] but a bone belt-hook from Grave 156 in the Perjamos cemetery at Szöreg (Szeged Museum), ornamented with elaborate dot-and-circle and arcaded patterns should also be brought into this group.[15] As we shall see, this ' Mycenaean ' ornament appears again in the Ia phase of Monteoru in the Carpathians with other elements linking this period of the site with Hungarian Bronze III. This is not the place to discuss the chronological significance of the appearance of these styles in East and Central European Bronze Age contexts, except to stress that they need not represent a sharply defined ' Shaft Grave Horizon ' dated to *c.* 1500 B.C., since the motifs involved, while appearing for the first time in this phase of Greek prehistory, certainly had a long persistence in Late Helladic times. The relative chronology of the Věteřov culture in Czechoslovakia, following that of Unětice, would in itself favour a date rather lower than that of L.H.I. It is in the Füszesabony

[10] Dr Kutzián has recently looked to the south for influences on Hungarian Copper Age pottery (*Acta Arch. Hung.*, IX (1958), 155). Cf. Childe's comments in *ibid.*, VII (1956), 1. For distribution-maps of copper axes, axe-adzes and other types in East Europe, cf. Driehaus in *Arch. Geog.*, II (1952–55), 1.

[11] Cf. *Acta Arch. Hung.*, II (1952), 54 for a preliminary sketch of this scheme.

[12] A. Moszolics, ' Die Frühbronzezeitliche Urnenfriedhof von Kisaopostag ' (*Arch. Hung.*, XXVI, 1942).

[13] Cf. Vogt in *Tschumi-Festschrift* (1948), 53; Hundt, *Katalog Straubing I*, (1958).

[14] As for instance in R. Hachmann, *Frühe Bronzezeit im West. Ostseegebiet* (1957), Taf. 70.

[15] *Arch. Ertesitö*, LXXXVI (1959), 49.

culture that the first certain evidence for horse-bits occurs in the Hungarian sequence, in the form of the well-known antler cheek-pieces or *psalia*.[16]

Correlations between the Bronze III phase of the Hungarian ' tell ' settlements and the spectacular bronze finds of the country can be made: for instance, the occurrence in the Pecica settlement on the Maros of moulds for casting shaft-hole bronze axes of the type of the Hadjú Sámson hoard, in the lower part of a layer of Füszesabony character, link the bronze types of this hoard and, for instance, that of Apa, with Bronze III. The significance of these and allied bronzes has been much discussed in recent years, and they constitute the first of Dr Moszolics's two ' hoard horizons '.[17] The second horizon is of critical importance, for the hoards of this phase are marked by the appearance in the Hungarian Plain of intrusive bronze types of late Reinecke B or B/C character, and are associated with the destruction-levels of the ' tells ' which bring to an end the Bronze III culture. Dr Moszolics has argued that this event is to be related to large-scale folk movements in the middle of the thirteenth century B.C., and despite recent criticism[18] her view seems the most satisfactory explanation of the archaeological evidence. Bronze IV, the Egyek/Pilin phase, shows continuing Bronze III traditions in the pottery, but also novel pot forms of German Tumulus Bronze derivation, together with bronze types equating the phase with Reinecke C/D, and flange-hilted daggers recalling Peschiera forms. Thereafter one moves into the still imperfectly understood Hungarian Late Bronze Age: Bronze V in its early stage being equated with Velatice, and Bronze VI with both inhumation and cremation cemeteries following this.

Recent work on the Rumanian Neolithic cultures has been summarised by Professor V. Dumitrescu and Dr Jiří Neustupny.[19] In Transylvania the Historical Museum of the Archaeological Institute in Cluj contains important material. A striking but relatively little-known find in the museum, from Ariuşd, is the fragmentary burnt clay exterior rendering of the gable end of a house some 7 or 8 feet high, with a round-headed doorway above which is a decorative relief motif embodying double spirals.

In south-eastern Rumania the Boian sequence of four phases (Bolintineanu, Giuleşti, Vidra and Petru Rareş) is well illustrated by the material in the National Museum of the Institute of Archaeology in Bucharest; the main collection from Vidra is in the City Museum. The elaborately decorated wares with heavy excised patterns originally filled with white paste include the large storage vessels with knobbed lids, comparable with the peg-foot vases of the Gumelniţa culture of Bulgaria: Dr Comsa is making significant studies of this material. The Vadastra group is a variant divisible into two phases, of which the earlier can now be shown to be contemporary with earlier Boian. Interesting finds from a Vinča-Tordos site at Rast in South Oltenia are large perforated antler objects, showing extensive striation and polishing, which have been interpreted as the shares of light ploughs.

In the Dobrogea, the Hamangia Culture discovered and described by Professor Berciu is of great importance in the Neolithic of Rumania.[20] In this area of the Black Sea coastal plain the Hamangia Culture is the earliest yet identified, and has been divided into five phases, broadly contemporary with Vinča-Tordos and early Boian: a ' waster ' in the Hamangia style from the second settlement at Karanovo in Bulgaria gives another chronological link. The pottery is of a high quality, thin, burnished and decorated with fine

[16] Studied by Dr Moszolics for Hungary in *Acta Arch. Hung.*, III (1953), 69, and by Dr Jelínková for Bohemia and Moravia in *Acta Univ. Carolinae* (Phil. et Hist., 3), Filip-Festschrift, 1959), 183.

[17] *Acta Arch. Hung.*, VIII (1957), 119.

[18] E.g. that of Bóna in *Acta Arch. Hung.*, IX (1958), 211.

[19] *Dacia*, N.S. II (1958), 35; *Slovenská Arch.*, VI–2 (1958), 257.

[20] D. Berciu, *Une civilisation néolithique . . . la civilisation de Hamangia* (1955).

hyphenated or corded lines, and the abundant pottery figurines include ' headless ' types with a rod-like ' neck ' recalling Early Cycladic forms.[21] From graves of the third phase of this culture at Cernavoda come astonishingly naturalistic representations, however, such as the male and female seated figures published by Professor Berciu in this number of ANTIQUITY (pp. 283–4), again reminiscent of Cycladic figurines of the type of the Harp Player.[22]

The Vidra material already referred to includes copper objects comparable with those from the Gumelnița culture in Bulgaria, as for instance a shaft-hole adze similar to that from Gaborevo (p. 292), an unbarbed fish-hook, and a miniature ' double-axe ' with shaft-hole.

In Eastern Rumania much attention has naturally been paid to the elucidation of the Cucuteni aspect of the Tripolye Culture, with the excavation of sites such as Izvoare,[23] Habaşeşti,[24] Traian,[25] and Truseşti[26] by Professor Vulpe and Professor Dumitrescu and his colleagues from Bucharest, and by Professor Petrescu-Dimbovița and Dr Florescu at Iaşi: the material is in the National Museum at Bucharest and the Historical Museum at Iaşi. A differential distribution-pattern between the settlements of Cucuteni A and B has now been noted, the sites of the earlier phase being on the spurs of low hills and often defended by banks and ditches across the root of the promontory, while the Cucuteni B settlement is that of undefended valley settlements. The structure of the big rectangular houses typical of the culture has been studied in detail, with their thick clay floors laid on transverse split logs and normally baked hard, and with no recognisable post-holes for the walls. Professor Dumitrescu points out that it is possible to show in some instances that when in a settlement the plan implies that some houses were built among and between others already standing, these later structures have unburnt clay floors, thus implying that the firing of the clay was a deliberate act, undertaken when building the house itself, and that it was omitted in the later structure owing to the risk of setting fire to the older houses. He also demonstrates the likelihood that the timber framing of the clay walls was carried on sleeper-beams in a manner still surviving in Carpathian vernacular building, thus accounting for the lack of post-holes.

In addition to the normal run of figurines, Truseşti has produced fragments of huge cult figures in baked clay. An ' altar ' has been reconstructed, over a yard high and consisting of an elaborately modelled decorative panel, with central oval boss and pilaster-like mouldings, developing on its upper edge into a pair of anthropomorphic ' busts ' of disparate size (? male and female), their stylized heads formed into cups, presumably for offerings. Fragments of other such ' altars ' have been found, always near hearths which may themselves have had a ritual function. Another interesting find from Truseşti was a pot with the impression of a net on its base, and containing fish-bones and perforated weights that must have been net-sinkers. Quantities of fine painted pottery of Cucuteni A and B have been reconstructed, among the latter being vessels with confronted beasts (? dogs), snakes, and a bull protome in relief. Radio-carbon dates have been obtained for Cucuteni A at Habaşeşti (3132 ± 80 B.C.) and Cucuteni B at Valea Lupului (2750 ± 60 B.C.).

Interesting new discoveries have thrown light on the single-grave cultures in Rumania.

[21] As in C. Zervos, *L'Art des Cyclades* (1957), nos. 53–58.
[22] *Ibid.*, nos. 316–7.
[23] R. Vulpe, *Izvoare: săpăturile din 1936–1948* (1957).
[24] V. Dumitrescu *et al.*, *Hăbăşeşti: monografie arhéologica* (1954).
[25] *Dacia*, IX–X (1941–44), 11.
[26] *Analele Ştiințifice Univ. Iaşi*, Sect. II, III (1957), fasc. 1–2; *Materiale si cercetari arhéologice*, VI (1959), 147.

At Gurbaneşti near Bucharest a *yamno*-type grave with flat timber roof contained a burial with corded ware beakers and a baldequin of camel-hair cloth[27]; at Dolheştii Mari a cist-grave held four human burials and that of a bovid or cervid, together with a corded beaker and globular amphora, and decorated bone belt-plates of the D-shaped East Prussian or Polish type,[28] allied to the Y-shaped form recently studied and mapped by V. Moucha.[29]

Copper and gold objects are already present in Cucuteni B, and at Ariuşd it has been shown that the gold objects from the lower levels are of an ore with an origin in the south, but the later gold is of local Transylvanian origin, with a characteristic high silver content. Transylvania of course forms a part of a cultural continuum of Dr Kutzián's Copper Age I and II, with the Decea Mureşului cemetery chronologically equivalent to Bodrogkerestur. In the same region the three phases of the Ottomani Culture are equivalent to Tószeg A, B and C; cart models appear in Ottomani II. Professor Dorin Popescu has published a study of the early metal-using cultures of Transylvania,[30] and Professor Ion Nestor has made a recent preliminary study of the beginnings of metallurgy in Rumania.[31]

The site of Monteoru in the southern Carpathians, excavated by Professor Nestor in a long series of campaigns, has produced a stratified sequence of first-class importance for the Rumanian Bronze Age. The notation adopted for the nine phases of occupation (and of cemeteries) is a complex one, and a simplified form is suggested here. In this we would begin with the basal occupation, of the Cucuteni B culture (with copper battle-axe and adzes, and a riveted dagger) as the first phase. Then there is a break in cultural continuity, and the main sequence opens with five layers linked by a developing pottery sequence (Ic 4—Ic 1, and Ib), which I would call the second phase. Metal is absent in the lowest layer, but copper objects occur in the one above, and continue sporadically. The third layer from the base (Ic 2) contains bone ring-discs of a type characteristic of the ochre-graves to the east, and with counterparts in Straubing or Adlerberg contexts in the west, which would give an equation with Hungarian Bronze II.

The third main phase at Monteoru (the excavator's Ia) is linked to the preceding phases by its pottery styles, but is characterized by a number of novel types, an increase in copper and bronze objects, and evidence of connections with regions beyond Rumania. It is in fact the counterpart of the Bronze III (Füszesabony) phase in Hungary, to which it is specifically linked by common types of decorated bone and antler objects, including a pair of antler cheek-pieces of a bit with the 'Mycenaean' ornament already mentioned. From cemeteries of this phase of Monteoru, as well as from the settlement, come copper or bronze wire torcs with rolled-back ends, plain or twisted; a 'Cypriot' wire-headed pin, lock-rings and basket ear-rings (also in gold), small barrel and triangular blue faïence beads, and a few of amber. This evidence for sudden enrichment and enlargement of trade contacts must in some way be connected with the same set of circumstances which gave to the Füszesabony phase and its counterparts in Hungary a similarly individual character.

The final phase, comprising Nestor's IIa and IIb levels, again shows continuity in developing pottery types, but a diminution of outside contacts, and the IIb phase leads directly into the Late Bronze Age Noua culture, linked by bronze types to Hallstatt A, but a break in pottery types between the last phase of Monteoru and Noua must again attest a disruption comparable with that at the end of Bronze III in Hungary.

[27] *Ibid.*, 789.
[28] *Ibid.*, 213.
[29] *Arch. Rozh.*, x (1958), 62; for the two types, cf. M. Gimbutas *Prehist. East Europe*, I (1956), 163, fig. 98.
[30] D. Popescu, *Die Frühe und Mittlere Bronzezeit in Siebenburgen* (1944).
[31] I. Nestor, *Sur les débuts de la metallurgie du cuivre et du bronze en Roumanie* (1955).

Side-by-side with the third Monteoru phase and Ottomani III, Professor Dumitrescu would place the cremation-cemeteries in Oltenia and Banat such as that he has excavated at Cîrna, and on which he is publishing a monograph.[32] The burials are in large cinerary urns with elaborate ancillary vases and figurines of women in skirts and aprons. The spiral motifs on many of the pottery types are compared by the excavators with those on the gold discs in the well-known Ostrovul Mare hoard. In connection with Bronze Age hoards in precious metal, one may note that of Early-Middle Bronze Age date from Turnu-Maguvele, now restored to the National Museum after an absence in Russia since 1916,[33] the two curious gold ' halberds ' from Măcin to the Dobrogea (in the Severeanu Museum, Bucharest, which also houses the Ostrovul Mare hoard), and the most remarkable find rescued in part from peasants after its discovery in 1954 at Perşinari, north-west of Bucharest, and now in the National Museum. Professor Nestor will publish the surviving objects from this hoard, consisting of the broken fragments of four or five small silver shaft-hole battle-axes with drooping blades reminiscent of Borodino, and the upper part of a huge gold dagger, the hilt and lower part of which is broken off, but leaving a fragment nearly a foot long and nearly 5 in. across the shoulders, weighing over 3 lb. avoirdupois of 21 carat gold! The blade has an elaborately moulded mid-rib, and the hilt, with omega-shaped lower edge, has been cast-on as a secondary feature in inferior gold over broken rivet-holes. This hafting is of coarser craftsmanship than the blade, but in the lack of convincing parallels from other areas of advanced Bronze Age metallurgy, both must be regarded provisionally as of local workmanship and, with the silver axes, constitute a remarkable tribute to the indigenous tradition of work in precious metals around the middle of the 2nd millennium B.C.

In Bulgaria the main accession to our knowledge of the Neolithic and earlier Metal Age has been that resulting from the extensive excavations by Professor V. Mikov in the ' tell ' of Karanovo in the Thracian plain, east of Stara Zagora, the material from which is mainly in the National Museum at Sofia, with type-series at Plovdiv and Stara Zagora.[34] The site is one of a series scattered along the southern skirts of the Sredna Gora range, with a pattern of distribution which like that of the modern villages is related to the spring-line. It is one of the largest in Bulgaria, about 800 by 600 ft. in diameter and over 40 ft. high, and in two large cuttings over 50,000 sq. ft. have been excavated to old ground level. The excavations appear to have been carried out with much technical skill, and a sequence of five settlements has been established, all of houses with pisé walls a foot or more thick reinforced with a central light wood framework carried on upright rods an inch or so in diameter. In Karanovo I and II the houses are square, but in the later settlements the plan is rectangular with an entrance at one end, with or without a porch or small outer room in Karanovo IV, and two-roomed with an apsidal end in Karanovo V.

The Karanovo I phase, with its white-on-red painted and (in Ib) rippled wares, bone spatulae, stone axes, clay figurines, and the well known composite flint sickles in bone handles,[35] is a version of the Starcevo-Körös culture. It is followed stratigraphically, but with a cultural break, by Karanovo II, representing the Vesilinovo culture, with pottery including the curious handled mugs which suggest wooden prototypes, and pottery sling-bullets, which appear only in this phase in Karanovo. Similar material, also with square house-plans, has recently been published from the lowest level of Yassa Tepe at Plovdiv

[32] Preliminary reports in *Materiale*, III (1957), 189; V (1959), 265. For the figurines, *IPEK*, 19, (1954–9), 16ff.

[33] E. Dunareanu-Vulpe, in *Studii asupra tezaurului restituit de U.R.S.S.* (1958). The famous Pietroasa treasure of the 4th century A.D. is also among the objects now returned to Rumania.

[34] Professor Mikov communicated an account of his excavations to the International Congress of Pre- and Protohistoric Sciences at Hamburg in 1958; summary in *Archæology*, XII (1959), 88.

[35] ANTIQUITY, XIII (1939), 345 and pl. III.

(in the Plovdiv Museum),[36] resting on a burnt layer interpreted as representing the burning of the original woodland to clear the site for occupation. As we have seen, the Hamangia Culture of Rumania can be equated chronologically with Karanovo II.

The third phase of Karanovo is represented by a short occupation, with a culture also present in Yassa Tepe II, where among the numerous finds is a remarkable series of clay models of chairs, benches and couches, some of the latter apparently upholstered, or at least with padded seats!

The main occupation of the ' tell ', with twelve building levels making up a total thickness of 19 ft. of deposits, is Karanovo IV, the equivalent of the southern Rumanian Gumelnița Culture, or what Gaul described as the ' Bulgarian Mound Culture '.[37] The large rectangular houses of Karanovo IV were on occasion decorated internally with painted wall-plaster with accomplished patterns in white and maroon red incorporating horizontal bands and oval motifs linked by S-shaped curves. In this phase the first metal objects in the Bulgarian sequence appear: the copper shaft-hole axe and adze found with a flat axe and bone-hafted awl at Gaborevo, a bone idol with copper ear-rings and diminutive gold foil anthropomorphic pendants from Karanovo, a barbed copper fish-hook from Salmonovo, and the well-known double-spiral-headed pins from many sites, including Ruse on the Danube. There is a large range of pottery types, including elaborate graphite-painted and black-on-red painted wares. To this phase also belong the house models such as that from Kodja Dermen, the curvilineal patterns on the outside of which may well represent original painted plaster. Statuettes of local marble have, as Childe and others have noted, vaguely Cycladic affinities.

Above the final Karanovo IV occupation is a dark sterile layer which, observed on the site in the extant sections, has every appearance of a thick old turf line forming during a period of prolonged abandonment of the site. The final occupation, the thin occupation layer of Karanovo V, is of Vesilinovo II/Kirilovo affinities, with a noticeable absence of figurines, and the presence of horse bones and stone battle-axes. This is equated chronologically with late Vinča-Pločnik by the excavator, but after this phase, as Childe remarked, we have ' painfully little archaeological material to fill the next thousand years '.[38] The Mikhalits site with its ' Trojan *depata* ', commented on by Mr Mellaart in this number of ANTIQUITY (p. 275), should, however, be mentioned here.

But an interesting situation is presented when one considers Karanovo and comparable sites from the viewpoint of the social and economic circumstances which they reflect. The type of settlement which produces a ' tell ' is essentially one based on an agricultural economy sufficiently stable and well developed to provide produce for permanent occupation on one site over a number of generations without the necessity of shifting the village in response to land exhaustion. The employment of mud-wall buildings, of limited duration and productive of bulky débris when collapsed, provides the actual material whereby the site rises upon its own stratified ruins. These are the two basic factors in ' tell ' formation and it is a commonplace that in the Old World such settlement is essentially a product of the earlier agricultural civilizations of the Near East and their successor states. Effective mud-wall building is subject to climatic control, in that it can only be successfully employed in regions of hot summers and comparatively dry winters, and the south-east European ' tell ' settlements must represent the transmission of Oriental techniques of farming and architecture to the northern and western limits of permissible climatic and geographical conditions. Beyond these boundaries, the damper and cooler temperate forest zone de-

[36] *Ann. Mus. Nat. Arch. Plovdiv*, III (1959), 3.
[37] J. H. Gaul, ' The Neolithic Period in Bulgaria ' (*Amer. School Prehist. Research Bulletin*, XVI, 1948), 79.
[38] *Dawn* (1957), 103.

mands heavy timber architecture (as in the Danubian I houses), and supplies the raw material.[39]

Excluding Macedonia and Thessaly as not immediately relevant here, the approximate distribution of Neolithic settlements of ' tell ' type in south-eastern Europe falls within the limits of a wedge-shaped area with its base stretching from the Rhodope Mountains to the region of Bucharest and the Dobrogea, and narrowing to a westerly termination around the junction of the River Tisza with the Danube. The main easterly component in late Neolithic and early Copper Age times is the Gumelnița culture, the Bubanj-Salența group of sites fall centrally, and those of Vinča-Pločnik in the west.[40] So far as chronological equations can be made between these various cultures, their effective end (at Karanovo, the end of the fourth settlement, sealed by a turf-line) appears to be approximately coincident. Gaul associated the end of the Gumelnița culture with the arrival of new cultural elements (represented in Karanovo V) which he connected with the movements of Indo-European speakers[41]; Garašanin notes the evidence for the Baden culture succeeding that of Vinča-Pločnik, and Childe has pointed out that a case could be made for associating this culture too with Indo-Europeans.[42] The Baden culture and the end of Vinča-Pločnik have usually been dated to around 2000 B.C., though Mr Mellaart, in an article in this number of ANTIQUITY (p. 270 f.), argues for a date a millennium higher!

But whatever the absolute chronology, the culture-sequence in Hungary, as we have seen (p. 286), places Baden in the Copper Age III of Dr Kutzián's classification, followed by the Bronze Age Ia, or Early Nagyrév, phase of Dr Moszolics's system. And Ib, the ' classical ' Nagyrév culture, is that which appears at the bottom of the Bronze Age ' tells ' of the Hungarian plain, indicating the beginning, in that area, of the same type of agricultural and social economy which in the areas further to the south-east had begun at a much earlier date, and ended just before the first appearance of these distinctive culture-traits in the regions west of the Tisza. Can this be only coincidence, or can we see a transference, after a period of disruption marked by cultures such as those of Baden or Karanovo V, of these ultimately Oriental techniques of stable village economy, into regions still further to the west and north? There need indeed be no hiatus: if we consider the cultures of the type of Baden as more pastoral in content, and with settlements of less permanent, semi-nomadic type, the two economies could have co-existed in the Hungarian Plain after the transference of the comparatively higher agricultural techniques from lower down the Danube: Baden and Early Nagyrév could overlap. Whatever may be the answer, a Bronze Age ' tell ' economy was developed in Hungary, and northwards at least to the Bakony and the edge of Slovakia, which in its third phase on the Great Plain can be connected chronologically with Late Helladic Greece.[43]

In Bulgaria such a Bronze Age is largely an archaeological blank, as Childe observed. He noted the sporadic occurrence, there and in Rumania, of bronze rapiers which in varying degrees reflect Mycenaean or at least East Mediterranean armourers' styles; Andriescu[44] and Dumitrescu[45] respectively have published examples from Transylvania and from near

[39] Cf. Clark's comments in *Prehist. Europe: The Econ. Basis* (1952), 131.

[40] Cf. Garašanin's map in *Bericht R-G Komm.*, XXXIII (1943–50), 127.

[41] *Op. cit.*, Ch. VII.

[42] *Dawn* (1957), 127.

[43] One objection to Mr Mellaart's high chronology is that if Baden is dated to *c.* 3000 B.C. rather than to *c.* 2000 B.C., an enormous gap is left in the Hungarian sequence between this phase (Copper Age III) and that of Bronze Age III, which with its Late Helladic contacts can hardly be before the 15th century B.C. A millennium-and-a-half for Nagyrév and Hatvan does seem excessive!

[44] *Dacia*, II (1925), 345.

[45] *Ibid.*, V–VI (1935–36), 169.

Bucharest. The Bulgarian examples, three with versions of ' horned ' hilts, were first drawn attention to by Stanley Casson.[46] Of these, that from Perushtitsa was found in a grave with an inhumation and a socketed spear-head of Mycenaean type, and that from Dolnolevski was again found with a similar spear, and so may also be from a burial. How these finds are to be related to the ' Mycenaean ' ornament on objects of Bronze Age III in Hungary, or Monteoru Ia in Rumania, is a question which will remain unanswered until the content of the earlier Bronze Age of Bulgaria is recognized and assessed.

[46] *Man*, 1923, no. 107.

Book Chronicle—*continued from p.* 265

NORDISKE LER-JORDS-HUSE. *By* Sven Risom. *pp.* 120, 88 *plates*. *Copenhagen, Rosenkilde og Bagger*. Kr. 48 (bound, Kr. 60).

DARWIN'S PLACE IN HISTORY. *By* C. D. Darlington. *pp.* 101. *Oxford, Basil Blackwood*, 1959. 9*s*. 6*d*. The last twelve months have naturally spawned books on Darwin and Darwinism. This short essay, by the Sherardian Professor of Botany in the University of Oxford is particularly worthy of attention as was Loren Eiseley's *Darwin's Century* (Antiquity, 1959, 78). He quotes Darwin's letter to Wallace in which he says: ' You ask whether I shall discuss " man " . . . I think I shall avoid the whole subject, as so surrounded with prejudices.' Essential reading for all archaeologists and how wisely amusing to remind us of Dr Johnson's remark ' I would advise no man to marry, Sir, who is not likely to propagate understanding.' Subscribers to Antiquity, please note.

KELTSKÁ CIVILISACE A JEJÍ DĚDICTVÍ. *By* Jan Filip. *pp.* 182, 40 *plates*, 52 *text figures*. *Praha, Védeckopopulārní edice ČSAV*., 1960. *Kčs*. 15, 10. Although the text must be restricted to readers of Czech, the illustrations and bibliography by themselves make this book an admirable introduction to the archaeology of the ancient Celts. Most remarkable to western eyes will be the range of illustrations of Central European La Tène graves, metal types, and hill-forts, but virtually all the more important sites and finds for the whole Celtic area find their place, and British material is very adequately represented. ' Celtic Civilization and its Heritage ', as would be the title in English, is one of a pocket-size edition of popular books published by the Czechoslovak Academy of Sciences. The author is professor of archaeology at the Charles University of Prague, and in 1956 published his magisterial work on the Celts in Middle Europe (*Keltové ve Střední Europě*). The present small volume is especially recommended to students who will find it a most comprehensive visual aid.

A MATTER OF TIME: An archaeological survey of the river gravels of England prepared by the Royal Commission on Historical Monuments (England). *London, Her Majesty's Stationery Office*, 1960. *pp.* 64, 10 *text-figures*, 13 *plates*. 10*s*. 6*d*. (See pp. 241–3 above.)

EXCAVATIONS ON DEFENCE SITES: 1939–1945, I. MAINLY NEOLITHIC-BRONZE AGE. *By* W. F. Grimes. *London, Her Majesty's Stationery Office*, 1960. *pp.* 259, 102 *text figures*, 48 *plates*, £4 4*s*. Volume 3 in the series of Archaeological Reports produced by the Ministry of Works. (See pp. 241–3 above.)

THE WOODWORK OF GREEK ROOFS. *By* A. Trevor Hodge. *Cambridge, The University Press*, 1960. 50*s*. *pp.* 150, 23 *text-figures*, 16 *plates*.

[*continued on p.* 302.

Notes and News

POTTERY 'ANCHORS' PLATE XXXIX (*c*)

The anchor-shaped objects of terracotta found around the Mediterranean were referred to in J. D. Evans's article in *PPS*, 1956, p. 99. Having seen and handled most of the examples in Italy, Lipari, Sicily and Malta, I feel that more can be said now on their function and significance. I do not know the Greek ones.

All are of fairly rough workmanship and must have had a simple practical use, as Evans observed. Furthermore, on examination most of the two-hooked ones bear signs of wear, often very clearly, worn grooves which could only be caused by thin threads looped over the hooks and sawn back and forth, as shown in the accompanying photograph (PLATE XXXIX (*c*)). This immediately implies something to do with, in the widest sense of the term, a textile industry, spinning, weaving, cord making or the like. Some reader with greater practical knowledge of these crafts may be able to suggest their exact use. A measure of corroboration comes from the fact that at the Maltese late prehistoric sites of Borg in-Nadur and Bahrija, whilst at the former 'anchors', spindle-whorls and loom-weights all occurred, though none was frequent, at the latter all three were exceedingly common, as if forming part of a single industry. No single-hook that I have seen shows comparable wear, so these may not have served an identical purpose, though in all probability a similar one.

Chronologically, in 1959 stratified levels of all period II phases were found at the sites mentioned above. No 'anchors' appeared with either Tarxien Cemetery or early Borg in-Nadur material. A number came from middle Borg in-Nadur (a long sub-phase from the 13th to 10th centuries B.C.), but they were not common until late Borg in-Nadur and Bahrija levels (contemporary with each other and the 10th to 8th century Fossa Graves of Italy). The Lipari examples were in a Middle Bronze Age horizon, Milazzese, and the only one yet from the Italian mainland, from Torre Casteluccia near Toronto, was clearly of Iron Age fabric. Single hooks may go somewhat earlier, but 'anchors' can now only be related to Early Bronze Age ones from Greece over a considerable time lag, and survive so much later that they no longer have the chronological value of the bossed bone plaques for example.

D. H. TRUMP

Postscript: Since I wrote this Mrs V. Greer has brought me from Crete a wooden single-hook from a hand loom in the village of Kamares. Two at either side of the web, connected by a cord over a pulley above, supported the heddles, which were raised and lowered by foot pedals. The pottery ones could have served a similar purpose.

ACHTHAMAR AND DIGENIS AKRITES PLATE XL

The Church of the Holy Cross (PLATE XL (*a*)) on the island of Achthamar in Lake Van was built by King Gagik of Vaspourakan between 915 and 921 and survives as perhaps the most remarkable of all Armenian monuments. Its peculiar interest lies in the bold frieze which encircles the walls (PLATE XL *b*, *c*, *d*) and in its iconography. This has been described by a number of scholars.[1] Professor Der Nersessian derives the iconography from late 4th century or early 5th century cycles in Egypt; as a whole it is not met with elsewhere in Asia Minor, Syria, or Mesopotamia.

[1] Particularly by Arménag Sakisian in 'Art Bulletin', XXV (1943), 346, and Professor Sirarpie Der Nersessian in her *Armenia and the Byzantine Empire*, Cambridge, Mass., 1945.

The Byzantine epic of Digenis Akrites has been dated by Professor John Mavrogordato between 1042 and 1054; other commentators place it rather earlier. The legendary exploits of Digenis took place largely in Armenia at a time when Armenian culture was particularly alive. Two schools of scholars have examined its historical background: broadly speaking Sathas, Legrand and Polites have sought to find Byzantine sources for it, whilst Grégoire has concentrated on Arab origins. Only Ardontz has gone into the obvious Armenian connections.[2] He rather overstates his case by discovering that nearly all those mentioned in the poem are Armenian. He did not, however, note the parellels in the description of Digenis Akrites' palace and its decoration, on the Upper Euphrates, in Book 7 of the epic with the description of Gagik's palace (now destroyed) described by a contemporary Armenian historian,[3] and the decoration surviving in the Church. These parallels would not be so striking if the iconography of the church had not been so unusual.

Thoma Ardzruni describes the vineyards and gardens which surrounded Gagik's palace. The king built

> ' un palais carré, de 40 coudées en largeur, d'autant en longeur et en hauteur. La muraille épaisse de trois grands pas . . . L édifice s'élève de plein-vol, sans colonnes de support . . . Il s'y trouve des enforcements voûtés, des angles, des corridors délicieux, inimaginables, dont l'oeuil ne se rend pas compte; des coupoles, solides comme le ciel, ornées et scintillantes d'or.'

The golden-decorated palace of Digenis Akrites was set in the same luxurious gardens[4]:

> ' Of goodly size, four-square of ashlared stone. . . .
> Within he made three-vaulted upper chambers,
> Of goodly height, the vaults all variegated,
> And chambers cruciform, and strange pavilions,
> With shining marbles throwing gleams of light.'

Both descriptions are somewhat lyrically vague and describe the ideal of a Byzantine, or at any rate oriental, palace, perhaps something like that of Basil 1st at Constantinople. But in the decoration of the Achthamar church and Digenis' palace there are some more definite links. The palace has a bizarre mixture of Old Testament and classical scenes: Agamemnon and Alexander jostle with Samson and Saul. Achthamar has an almost entirely Old Testament cycle with friezes of hunting scenes and wild animals such as Digenis hunted. Not surprising is the appearance of Saint Theodore at Achthamar and as the patron of Digenis' palace chapel. In both is the unusual scene of Samson fighting the lion. Another rare duplication is:

> ' Moses his miracles, the plagues of Egypt,
> Exodus of the Jews, ungrateful murmurs,
> And God's vexation, and His servant's prayers.' [5]

' His servant's prayers ', may be a reference to one of the distinctive features with which Professor Der Nersessian relates the Achthamar sculpture to the *Commendatio Animae*

[2] N. Ardontz: ' Les fonds historiques de l'epopée byzantine Digénès Akritas ', in *Byz. Zeitschrift* XXIX (1930), 198–227.

[3] Thoma Ardzruni (in Brosset: *Coll. des Historiens Arméniens*, vol. i, St Petersburg, 1874, Book III, Ch. 36—Brosset's translation.

[4] John Mavrogordato: *Digenis Akrites*, Oxford, 1956, pp. 217–23. His translation of ll. 3352 and 3357–60, using the Grottaferrata MS. Many of these lines are closely imitated in a later poem from Melitene (Malatya) on the Upper Euphrates, some 250 miles west of Van.

[5] Mavrogordato: ll. 3403–5.

scenes in very early Christian sarcophagus decoration.[6] The souls of the deceased of this Armenian dynasty are commended to God who is asked to deliver them as He had delivered Moses from Pharaoh or David from Saul and Goliath. Thus we find not only David and Goliath, rare in Byzantine, and unique in surviving Armenian iconography on this scale, but Saul in the same scene in both Digenis and Achthamar. (PLATE XL (*b*)).

> ' David midmost he showed, without all arms,
> Sling only bearing in his hand and stone;
> Beyond Goliath too in stature great,
> Dreadful to look at, mighty in his strength,
> From head to foot in iron fenced about,
> Bearing a javelin like a weaver's beam
> In hue all iron by the painter's art.
> He painted too the very moves of war:
> Struck rightly by the stone Goliath straight
> Fell wounded to the ground immediately;
> How David running, lifted up his sword,
> Cutting his head off had the victory.
> And then the fear of Saul, the meek one's flight,
> The thousand plots, and God His vengeances.'[7]

One cannot help thinking that the author of Digenis is describing the scene at Achthamar.

In view of the geographical and chronological proximity of both the composition of Digenis Akrites and the building of the church and palace on Achthamar, and because some of the iconography of the one, unique in Armenia, occurs in the other also, the possibility of a link between the two must seriously be considered.

A. A. M. BRYER

[6] See also Josef Strzygowski: *Origin of Christian Church Art*, Oxford, 1923, p. 159.
[7] Mavrogordato: ll. 3379–92.

THE WINDMILL HILL LONG BARROW

Excavation of this heavily damaged long barrow, situated some 800 yards to the south-west of the causewayed camp on Windmill Hill near Avebury, Wilts. (SU 086705), was sponsored by the Ministry of Works in 1959. The plan recovered (FIG. 1) shows a mound some 185 ft. in length, orientated S.E./N.W., and with the side-ditches slightly splayed at the N.W. end. The interest of the barrow lay not only in its position, which suggested a possible relationship with the camp, but also in its structure. As most of the long barrows in the Avebury region are or have been chambered, the question arose as to whether a stone structure had originally existed here or whether, as indicated by Stukeley's drawing,[1] this had been a simple earthen mound.

The large quantities of antler, bone, flint artifacts, sarsen rubbers, and especially of pottery and pieces of imported rock recovered from six sections dug across the wide, relatively shallow ditches were entirely comparable with finds from the camp; so, too, was the stratified sequence, with Beaker and other Late Neolithic wares again lying in the upper silt levels of the ditches.

No evidence could be found for the former presence of stone structures; there were no

[1] *Abury* (1743), Tab. XVIII, p. 46.

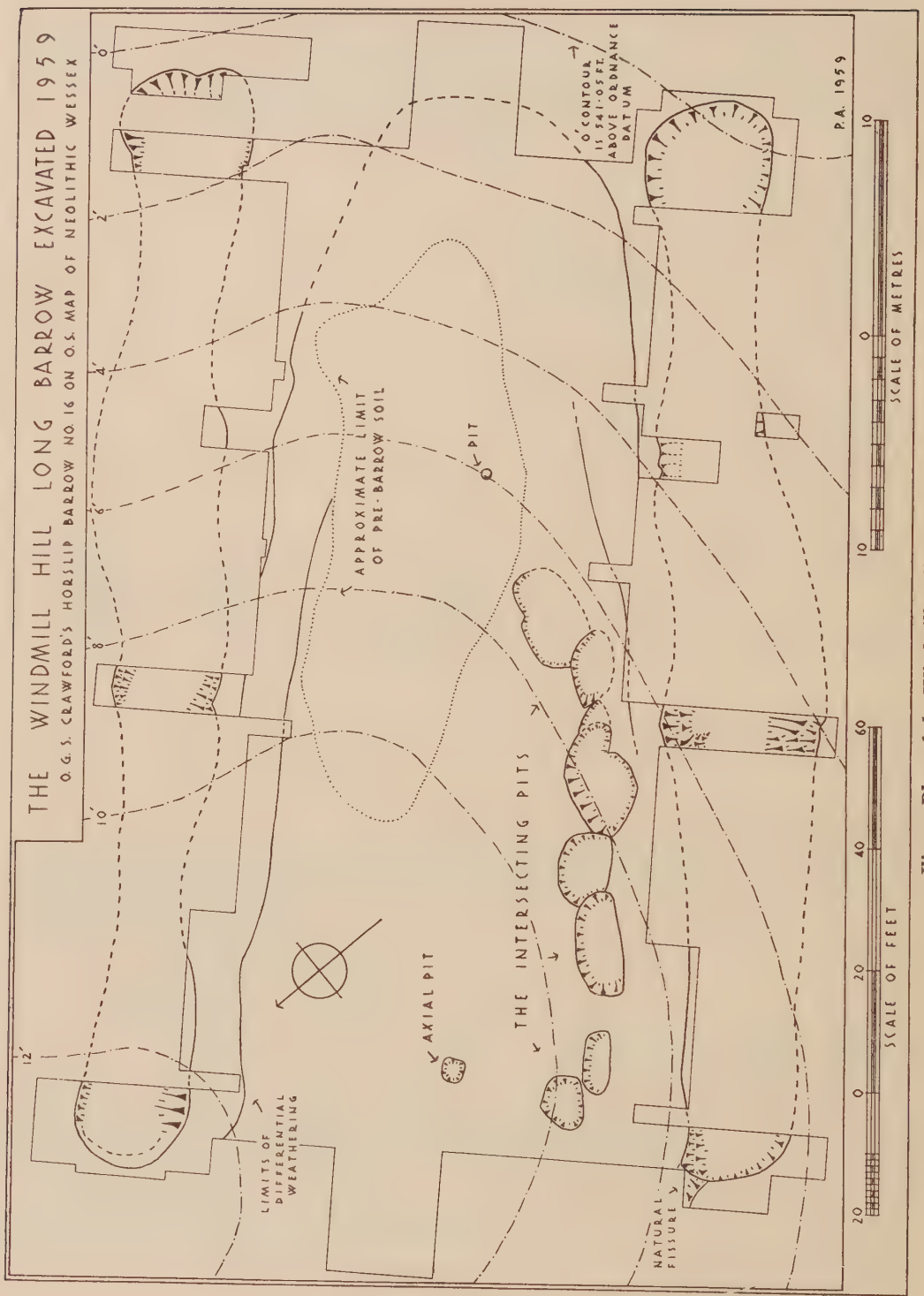
THE WINDMILL HILL LONG BARROW EXCAVATED 1959
O. G. S. CRAWFORD'S HORSLIP BARROW NO. 16 ON O.S. MAP OF NEOLITHIC WESSEX
0' CONTOUR IS 541·05 FT. ABOVE ORDNANCE DATUM
P.A. 1959
APPROXIMATE LIMIT OF PRE-BARROW SOIL
PIT
THE INTERSECTING PITS
AXIAL PIT
LIMITS OF DIFFERENTIAL WEATHERING
NATURAL FISSURE
SCALE OF METRES
SCALE OF FEET

Fig. 1. Plan of the Windmill Hill Long Barrow.

traces of stone-holes and the tell-tale chips and flakes of sarsen left by stone-breaking were absent. Nor were there signs of the use of timber or turves, though evidence for the latter would in any case have been destroyed, since the plough had cut down to the solid chalk over considerable areas. Palisade trenches or post-sockets would, however, have remained in truncated form. The presence of large tabular blocks low in the ditches suggested that a chalk block revetment might have given some initial support to the heaped mound. An earthen barrow would be the product of the rapid decay of such a structure. The occurrence in the plough-soil of many small slabs of sandstone, as well as a few small sarsen boulders, suggests the further possibility that these may have been incorporated in the mound in some way comparable with that of the imported sandstone and sarsen boulder at Wor Barrow[2] and the single large block in the Holdenhurst Long Barrow.[3]

The sandstones were mainly derived from the Lower Greensand,[4] but there were also pieces of Old Red Sandstone from Eastern Mendip, of Trias from north of Mendip, and several sandstones and limestones of probable Jurassic origin. Thus, despite the absence of oolitic limestone, the barrow still yielded evidence for connections with the areas to the west whence came the dry-stone walling of the West Kennet and other long barrows near Avebury.

The barrow stands on the Lower Chalk, and in digging the ditches a special technique had been devised for breaking away blocks of this material, which differs in cleavage from the other Chalks. Interconnected and infilled quarry pits on the inner side of one ditch suggested replanning to a larger scale at an early stage of construction. Beneath the mound the area of ancient soil still remaining was exposed and studied, and two axial pits were discovered.

Although well-preserved animal bone occurred in the plough-soil over the ditches, and some of it had almost certainly been carried down from the mound, there were no obviously human bones in the sections excavated. If there had been a great mass of skeletons such as that beneath the Fussell's Lodge Long Barrow,[5] some scattered bones would undoubtedly have been found. Thus it may be assumed that burials, if any, were few; it is even possible that, as in the Thickthorn Long Barrow,[6] there had been none.

The Ministry of Works is to be thanked and congratulated for the sponsorship of an excavation which has thrown so much new light on the Neolithic in this key area. The results have added considerably to information already derived not only from the Windmill Hill camp, but also from the recent investigatons of the West Kennet and Manton Long Barrows.

PAUL ASHBEE and ISOBEL SMITH

[2] A. H. Pitt-Rivers, *Excavations*, IV, 65–6 and Relic Table.
[3] S. Piggott, *PPS*, III (1937), 5 and pl. VI.
[4] These rocks were kindly identified by Dr F. S. Wallis and Mr L. Richardson.
[5] ANTIQUITY, XXXII, 106–111; *WAM*, LVIII, 3–5.
[6] *PPS*, II (1936), 77–96.

A NEW STUDENTS' ROOM IN THE BRITISH MUSEUM

The science of Assyriology was born over a century ago. The British Museum was then the centre of the world for the decipherment and study of cuneiform, the ancient script of Assyria and Babylon, since the earliest finds of cuneiform tablets were brought there for preservation and study. This tradition has been maintained and the Museum's great library of clay tablets inscribed with cuneiform, though no longer unique, is the largest in the world. The subject of Assyriology is now studied in many countries, and students come

from all parts to study the Museum's tablets in the Department of Western Asiatic Antiquities. The old students' room accommodated only two or three scholars in very crowded conditions, whereas the new room, opened on 28 July, has ample space for at least eight scholars. The room is supplied with excellent artificial strip-lighting from the left-hand side as it is difficult to read these tablets unless the light comes from this direction. The students are separated from clerks and staff by a glass window, which eliminates disturbance by noise of typing, conversation or telephones.

MEDITERRANEAN SCHOLARSHIP, 1961

The Society for Hellenic Travel is sponsoring an archaeological cruise to the Eastern Mediterranean from 5 to 21 April, 1961, which will visit, among other places, Mistra, Pergamum, Athens, Knossos, Cyprus, Rhodes, Jericho and Jerusalem, and is again offering one free place for a student member interested in the history, archaeology or art of the Mediterranean. This scholarship will provide free travel, accommodation and all meals and excursions from London back to London. It is intended for men and women between the ages of 16 and 21 who are in the sixth forms of schools or the first year of their university studies. It will be awarded on the basis of an essay submitted by 15 February, 1961, which should be not less than 3000 words and not more than 7000 words and should deal with any aspect of the history, archaeology or art of the Mediterranean area before A.D. 1453. For further information apply to *Miss M. W. McCall, Secretary, Society for Hellenic Travel, 4 Argyll Mansions, Chichele Road, London, N.W.2.*

The 1960 Mediterranean Scholarship (ANTIQUITY, 1959, 296) was won by Mr Gerald Cadogan of Harrow School who submitted an essay on ' The Foreign Relations of Knossos in the Middle Minoan III and Late Minoan I and II Phases ', and is now an undergraduate at Oxford.

THE PREHISTORIC SOCIETY'S CONFERENCE IN THE NETHERLANDS

At the invitation of the Dutch State Archaeological Service the Prehistoric Society of Great Britain held its Summer Conference this year in the Netherlands, from 3 to 10 September. A remarkable programme had been arranged and was carried through under the direction of Professors Glasbergen and Waterbolk, and Dr Modderman, including visits to museums, sites and current excavations over the whole of the country. Special exhibitions, some arranged specifically for the Conference, included the noteworthy *Panorama of Prehistory* in the State Museum of Archaeology at Leiden, that illustrating Anglo-Dutch connections in prehistory, *Across the North Sea*, in the Drenthe Provincial Museum at Assen, and that in the Schokland Museum of the newly reclaimed North-East Polder. Special demonstration excavations included those of the Danubian I settlement at Elsloo, the bog causeway near Emmen, and a two-period round barrow of the Bronze Age at Elp.

The Conference gave British prehistorians an impressive picture of Dutch archaeology, not only from the point of view of results, but from that of a state organization of research functioning in the happiest and most enlightened manner. We all owe our Dutch colleagues a deep debt of gratitude.

SUMMER SCHOOL IN INDUSTRIAL ARCHAEOLOGY, 1961

The Extra-Mural Department of the University of Manchester is organizing a Summer School in Industrial Archaeology to be held in the Woolton Hall, Manchester between 15 and 29 July, 1961, under the direction of Dr E. R. R. Green, Lecturer in History in the University of Manchester and Secretary of the Industrial Archaeology Research Committee

of the Council for British Archaeology. The programme prepared is an attractive one with lectures (including Charles Hadfield on *Canals*, J. R. Harris on *Mining*, T. W. Freeman on *Industrial Archaeology from Ordnance Maps*, and Dr Green on *The Nature of Industrial Archaeology*), seminars, and excursions to the West Midlands, Sheffield, Leeds, Derbyshire, Liverpool and places in the immediate neighbourhood of Manchester. It is hoped that the main body of participants will be from the United States and Canada, but there is room for a small number of British applicants. The charge for membership of the Summer School (including board residence, tuition, and excursions) is £35 or 100 U.S. dollars or 96 Canadian dollars. Applications for membership should be sent to *The Director of Extra-Mural Studies, the University, Manchester* 13, *England*, as soon as possible and not later than 28 February, 1961.

BRITISH COUNCIL COURSE IN ARCHAEOLOGY, 1961

The British Council is organizing a course in Archaeology based on Salisbury between 17 and 30 September, 1961, to be directed by Professor Stuart Piggott. A previous course in Archaeology held in Salisbury in 1950 also under Professor Piggott's direction proved most successful and was attended by Professor van Giffen, Professor Becker, Dr Ramskou, Dr Glazema, Professor Glasbergen to mention a few of the more distinguished names. Since 1950 the British Council has not held any more archaeological courses but two very successful courses on conservation: The Conservation of Paintings Course in 1958 directed by Mr Rees Jones of the Courtauld Institute, and the Conservation of Antiquities Course this summer directed by Dr Werner of the British Museum. It was time for another general course in British Archaeology as was mentioned in these pages when describing the course organized in the Liparis and Sicily for British Students by Professor Bernabò Brea (ANTIQUITY, 1959, 259). The sub-title of the 1961 course is 'The Archaeology of Wessex from the beginnings of Agriculture to the Norman Conquest,' and it will include lectures and demonstrations, and visits to field monuments and museums. There are vacancies for twenty members and the qualification demands that the applicants should be practising archaeologists, or members of the staff of museums or institutes of archaeology, or university departments or members of governmental or state archaeological departments or services, with, of course, a good knowledge of the English language. The course is naturally for archaeologists living and working outside Britain. The British Council say that preference will be given to the younger applicant when possible, and we hope that preference will also be given to those who have never seen British field monuments before. Applicants should write to the British Council office in their own country, or, if in any doubt, to the *Director, Courses Department, The British Council*, 65 *Davies Street, London, W.*1.

THESSALIKA (*ΘΕΣΣΑΛΙΚΑ*)

Welcome to this new journal which describes itself as an archaeological review of the civilization, history, and religion of Ancient Thessaly. It is edited by D. R. Theocharis, the Ephor for Antiquities in Thessaly, and published at Philarchaeos Etaireia, Athanasaki Street, no. 1, Volos, Greece; the subscription for one year is 25*s*. or 3.50 dollars. The first issue, for 1958, includes articles by D. R. Theocharis on 'Neolithic Settlements near Iolcos,' and the 'Pre-Pottery Neolithic in Thessaly,' by N. D. Papahadjis on 'The Palace of the Macedonian Kings in Demetrias' and 'The Pasikrata sanctuary of Demetrias,' by Maria Papadopoulou on the 'Neolithic Settlement of Magoulitsa near Karditsa,' and by G. Bakalakis on 'The Fournospilia Cave.' The articles are in Greek, with short English summaries.

THE PLAINS ANTHROPOLOGIST

The Plains Anthropologist, an American regional journal devoted to the general interpretation of the Plains area, resumed publication in May 1960 with issue no. 9. This quarterly journal contains short articles on the archaeology, ethnology, and physical ethnology of the Indian cultures of the Plains and related areas from Texas to central Canada. The subscription is 2.00 dollars per year and should be sent to the *Editor* (*James B. Shaeffer*), *Plains Anthropologist Research Institute, North Campus, University of Oklahoma, Norman, Oklahoma, U.S.A.*

ARCHAEOLOGICAL REPORTS FROM ATHENS

For some years the Hellenic Society and the British School of Archaeology at Athens have published annual reports on recent archaeological work in Greek lands for private distribution to their subscribers. These reports, in a new form, are now offered for sale to the public also. We welcome this development; the reports offer the only up-to-date and comprehensive accounts in English of the many new and exciting discoveries of Greek art and antiquity. The Archaeological Reports for 1959–60 which appeared in the late summer of 1960 include ' Archaeology in Greece, 1959 ', by M. S. F. Hood, and ' Recent Work in Asia Minor ', by Professor J. M. Cook. The *Reports* are 50 pp. long and fully illustrated with about 70 pictures and plans. They cost 7*s.* 6*d.* (postage 6*d.*) and may be ordered from *The Hellenic Society*, 31–34 *Gordon Square, London, W.C.*1.

Book Chronicle—*continued from p.* 294

ROUFFIGNAC. *By* L. R. Nougier and R. Robert. *Florence, Sansoni*, 1960. *pp.* 72, 5 *text-figures*, 53 *plates*, 1 *colour plate*. 5,000 *lire*. A volume in the *Origines* series edited by Professor Graziosi, and dealing only with the *Galerie Henri Breuil* and the *Grand Plafond* at Rouffignac.

THE NEOLITHIC REVOLUTION. *By* Sonia Cole. *pp.* 60, 32 *text-figures*, 18 *plates*. *London, British Museum* (*Natural History*), 1959. 5*s.* A well-produced and well-illustrated handbook to the exhibits in the British Museum (Natural History) dealing with the change from hunting to farming in man's history which has been called the Neolithic Revolution. Some of the absolute dates for the Neolithic in Europe and Britain will have to be modified in view of the findings of Carbon-14 analysis now being revealed. Extremely good value for money.

Reviews

HISTORY AND THE HOMERIC ILIAD (Sather Classical Lectures, vol. 31). *By* DENYS L. PAGE. *Berkeley and Los Angeles; University of California Press*, 1959. *pp.* ix + 350.

Our generation is the first (and by that I mean, quite literally, the first ever) which can pretend to a serious study of history (used here in the restricted sense of political history) and the Homeric *Iliad*. This subject has its own long history, from Thucydides to Walter Leaf, but not one of these men, intelligent and serious-minded as some of them were, could achieve anything but a fantasy distilled out of the poem itself, aided by nothing more than high intelligence, imagination, and the dubious support of myth and legend. Now a number of totally new elements have entered the picture, and they are decisive: Blegen's excavations at Troy, Hittite documents and Hittite archaeology, Anatolian archaeology generally, Mycenaean archaeology, Milman Parry's discovery of the formulaic elements in the Homeric poems, and (least important for this subject, despite exaggerated claims) the decipherment of Linear B.

Each of these elements contributes something unknown to anyone from Thucydides' time to our own (indeed, on all points but one, from Homer's time on). Ancient geographers like Strabo, for example, knew that they did not know many of the place-names in the Catalogue of Ships in the second book of the *Iliad*. We know, as they did not and could not know, what this means historically and how such a politically and onomastically odd geographical situation came about. Each new element by itself, however, is insufficient; it is only the combination which has brought about a revolution. And Professor Page has for the first time made the combination, in a work which must rank as one of the most distinguished in a very distinguished series.

No short review can do justice to the richness and importance of the book, and certainly not a mere statement of its main conclusions. Professor Page demonstrates that the ' men of Ahhijawa in the Hittite documents are Greeks of the two centuries preceding the sack of Troy ' (p. 18), centred on the island of Rhodes, where, under a single king, they were ' allowed to control a small district on the mainland ' and dealt with the Hittite king almost in the ceremonial language used by equal powers. Troy, in the north-west corner of Asia Minor, was during most of the 2nd millennium B.C. outside the sphere of Hittite interests (and even contacts), but it maintained extensive trade relations with the Mycenaean world, its wealth derived above all from the horse and the sheep. Only in the final decades of Hittite power (from the middle of the 13th century) does Troy make a casual appearance in the Hittite documents. The ' historical background ' of the Trojan War, Professor Page believes (p. 109), ' is to be found precisely here—in the conflict between rival forces, Achaeans and the League of Assuwa, over the territory at long last vacated by the Hittites '. ' The Iliad ', he continues, ' does not disagree with the Hittite documents: it supplements them, saying that the contest for power was not confined to the centre and south, but extended to the north also; and that the Achaeans engaged on the coast came not only from Rhodes and its neighbourhood, but also from the mainland of Hellas '.

That last assertion is crucial and admittedly suspect. But Professor Page is convinced by the evidence of the Catalogue of Ships. This document, he argues, is demonstrably Mycenaean in origin (except for the actual numbers of ships), was transmitted orally in a

tradition wholly independent of the tradition culminating in the *Iliad* (to which it was joined at a very late date), and was from the first an Order of Battle (more precisely two, one Achaean and one Trojan) and nothing else. In the Catalogue, then, we have a picture of the geopolitical structure of Mycenaean Greece. Otherwise the *Iliad* has 'only the faintest conception' of the world whose institutions have been opened to us, in a fragmentary way, by the Linear B tablets. The illiterate four-century Dark Ages which intervened broke the connection and destroyed the memory almost completely, apart from places and epithets preserved in the formulas which were the bricks of heroic poetry, and apart from the fact of the Trojan War and the names of many of its leading participants.

Stated so summarily, none of these conclusions is startlingly new. The identification of Ahhijawa has recently been argued with great skill by Volkl, the significance of the Catalogue of Ships by Burr, the break between Homer and Mycenae by a number (though a minority) of experts. What is new and of the highest importance is, in the first place, the combination, as I have already said, the minute knowledge of the totality of the disparate evidence, and, in the second place, the power and discipline of the analysis. Most noteworthy of all, perhaps, is the author's perfect vision: he never misses the line where evidence and reasonable inference end and guesswork begins, in a field in which unreasonable speculation has been running riot (the very long note 29, which begins on p. 205, brings our fragmentary and uncertain knowledge of Mycenaean institutions into correct focus). There is something of the technique (and the excitement) of the first-class detective story about the presentation, so that the reader of the text becomes party to the process. The notes, meanwhile, give him a guide to half a century of scholarship not only on the main theme, but also on the archaeological and philological instruments without which the problem is unapproachable.

Some of the argument is more persuasive, some less, and hence some of the conclusions seem to me more secure than others. In particular, I am unable to make the bridge from the anti-Hittite coalition of the Hittite documents to the anti-Trojan coalition of the *Iliad*, not even with the assistance of the Catalogue of Ships. But such problems require long, complicated analysis, outside the scope of a review. What is beyond discussion is that Professor Page has given us a book which all future study must take as its starting-point, and on some aspects, as near to a certain point of departure as it is possible to achieve in this slippery field.

M. I. Finley

A HISTORY OF METALS. *By* Leslie Aitchison, D.Met., M.Sc., F.R.I.C., F.R.Ae.S., M.I.Mech.E., F.I.M. *Two Volumes. London; Macdonald and Evans Ltd.*, 1960. *pp.* 647, 262 figures and 48 tables. £8 8*s*.

Although in recent years much has been written upon the subject of ancient metals, it can be said without fear of exaggeration that the publication of this large work is an important event. Concerning the metals in antiquity, Professor Aitchison's great experience as a scientist in both research and industry ensures an accurate and authoritative approach to the subject. It is of course impossible to write a comprehensive history of metals covering the whole range from prehistoric to modern times without taking the many, and complex, archaeological and historical factors into account. Here, while Dr Aitchison has a wide and clear grasp of the archaeological background in his own right, he has also been in touch with archaeologists and scientists in many countries. As a result, we are offered an excellent and well reasoned archaeological setting to the rise and evolution of the various metals.

The two volumes cover all the ferrous and non-ferrous metals of antiquity, an excellent

treatment of medieval metals, the rise of cast iron, the Industrial Revolution, and subsequent development to present times. In the first volume the seven metals of antiquity, gold, copper, lead, silver, tin, iron and mercury, are dealt with. In the second volume, the uses of mechanical power are extensively treated, and practical metal-winning and metal-working from around 1000 A.D., to recent times fully discussed. The volumes are written in a manner clear to archaeologists. Although the author is an eminent metallurgist, or perhaps for that reason, he avoids metallurgical and technical jargon. This work is not a history of technical procedures, and on technological matters the author restricts himself to giving such information as is necessary in order to make plain to those possessing little metallurgical knowledge the principal features of the processes that led to the emergence and employment of the various metals and alloys known today.

Within the limits of review space it is only possible to mention one or two aspects of the vast amount of information in these volumes. For instance, it is helpful to have modern metallurgical opinion upon the old and vexed question of the discovery of copper smelting. It would now appear that the over-simplified ' camp fire ' theory may be given a decent burial. Dr Aitchison faces the fact that no one can be sure in what way the smelting process was discovered, and he favours an accidental discovery associated with a two-tier pottery furnace or kiln. The theory is an attractive one in view of the Etruscan copper smelting furnace, which in construction is essentially a two-tier kiln. We have favourable thermal conditions, the possible presence of enriched copper bearing mineral and, not least, the probability that an accidental reduction would be observed and lead to experiment. Following the discovery of copper, the history of the various metals and alloys is treated in considerable detail. The important relationships between metallurgy and archaeology are kept before us, interesting and often new light is shed upon this field.

Prehistoric iron and the rise of the iron industry is given ample space. The reader will find the clear and authoritative discussion of iron smelting of great value to a true understanding of the process. Archaeological literature is not always free from some confusion concerning the relative values of bronze and iron as working materials. This is not surprising, for as Dr Aitchison points out, wrought iron has never been a practical substitute for bronze, either as a material for casting or for the production of tools and weapons which must be hard and strong. Conversion of wrought iron to a ' steely ' material, quenching to harden, tempering and other processes, are all factors vital to an understanding of the slow initial start and subsequent rapid rise of the iron industry. These technical aspects are clarified in a most satisfactory manner.

Volume II opens at the time when power that had not been generated by human muscles was first applied to metallurgical operations. In the Middle Ages a great advance was made through the application of water wheels to drive the bellows of furnaces and forges. Again, during the 14th and 15th centuries A.D., heavy water-driven tilt hammers were introduced, and these well show the advance made to relatively heavy forging work. Such use of mechanical energy is given due consideration, for it was the foundation on which the most important metallurgical developments of the Middle Ages were based. When the 13th century opened it seems that in most parts of Europe iron was still being extracted from its ores by almost exactly the methods of three millennia earlier, but after this we find marked progress—furnaces of Catalan and Osmund type, and the Stückofen or Hochofen. In the Stückofen the author sees the most important furnace development of the Middle Ages. It eventually attained a height of 30 ft. and it became possible to melt and run the iron. In fact, this furnace was the progenitor of the blast furnace; from it European cast iron and pig iron were born, and the foundation of our modern iron and steel industry laid. From this foundation, Dr Aitchison describes the rise of the metal

industry to the present day in interesting and instructive manner.

The author has made considerable use of archaeological dates in his text. As we know, dates have a habit of changing as the results of new research and improved dating technique come in. However, dating adjustment can always be made should that be required in the future. In conclusion, the production and illustration of the book is of very high quality. We may safely say that these volumes should form a standard work for years to come. To the professional archaeologist the work is an essential and it is recommended with entire confidence to all readers of ANTIQUITY.

H. H. COGHLAN

BEITRÄGE ZUR CHRONOLOGIE DER URNENFELDERZEIT NÖRDLICH UND SÜDLICH DER ALPEN. *By* HERMANN MÜLLER-KARPE. *Römisch-Germanische Forschungen, Band 22. Berlin,* 1959. *pp.* 334, 64 *figures, map, separate volume of* 211 *plates, DM* 98.

The standard English text-books are sadly out of date and it has become necessary to consult German literature for even an outline of the Urn-Field cultures. This book provides an indispensable *corpus* for the study of the subject in Italy, Yugoslavia, Austria and South Germany. Some of the material is published for the first time; the remainder has never before been brought together so usefully.

The basis for a relative chronology is laid in the first half of the text with a comprehensive reconsideration of the Italian Late Bronze and Early Iron Ages. For Trans-Alpine Europe, the author is able to demonstrate the existence of six consecutive Late Bronze Age phases (' Reinecke D ', followed by two phases of Hallstatt A and three of Hallstatt B), using the technique of cemetery topography and by close attention to associated finds in graves and hoards. If the diagnostic variations of pin and bracelet are of minor interest in themselves, it is out of such details that a chronological frame for our picture of Bronze Age Europe must be built. In Bavaria it was the author's own excavation of urn-fields around Munich and at Kelheim near Regensburg which first gave substance to his proposed subdivisions of Hallstatt A and B. He now traces the same phases in Austria and Yugoslavia, re-using older published material and applying the technique of cemetery topography, for example, to Maria Rast, where he finds the three phases of Hallstatt B.

The important Grave I at Mühlau in the Tirol, which was Reinecke D to Childe (*PPS*, 1948), is here regarded as Hallstatt A 1. It is to be hoped that the content of the various phases may remain fixed hereafter, since intelligent appraisal of chronological problems is impossible while periods are being continually ' emptied ' into one another.

The text makes lucid account of detailed parallels between the cultures of the wide area considered. The relative and absolute chronologies proposed, by the nature of such things, are hardly likely to be a final solution. Their only possible foundation is upon the Mycenaean dates—sands more liable to shift than is often appreciated. Despite the title, absolute dates are disposed of in a mere three pages, while the obviously schematic nature of the conclusions is perhaps intended as a warning of the uselessness of closely argued speculation where proven connections with historically dated cultures are so few and so indirect. The six phases are, in fact, assigned a century each (!) covering the period 1300–700 B.C. Reference to the Mycenaean and Italian sequences are in the same round figures. The problems avoided by this arrangement may best be left to answer themselves in the course of further research and excavation.

At the same time, one is inclined to doubt whether the Bavarian assemblages are not too slight in content to spread over a century. And since the date proposed for the beginning of Reinecke D, 1300 B.C., is substantially earlier than any accepted hitherto, one would have

welcomed a more closely argued exposition of the author's views on this point, which directly affects the initial date of the Late Bronze Age in West Europe and Scandinavia. Upon inspection, the early date does not seem to afford sufficient provision for time-lag between the appearance of new features (for example violin and arc fibulae) arriving from the East Mediterranean to South Italy and spreading *via* North Italy to Trans-Alpine Europe. Not everyone would accept the necessity for a time-lag. Yet the fact that Desborough has shown the spread of the innovations of the Proto-Geometric period *within Greece* to occupy a period of centuries rather than decades is indicative enough.

AUDREY OZANNE

THE ANTECEDENTS OF MAN. An Introduction to the Evolution of the Primates. *By* W. E. LE GROS CLARK. *Edinburgh University Press*, 1959, *pp.* 374, 152 *figures.* 21*s.*

This book consists of the Munro Lectures given at Edinburgh University in 1953, but with some rearrangement and amplification. In general form it is very similar to the earlier work of Sir Wilfrid Le Gros Clark's called *Early Forerunners of Man*, which was published in 1934, but of course the new publication draws upon more recent information and evolutionary concepts as at present understood. The number of fossil primate remains also continues to increase steadily, and two fossil groups, the Australopithecines of South and East Africa, and the Proconsul group of East Africa, have become particularly well known in recent years.

Primarily the book was written as a general textbook for students of anthropology, biology and anatomy, but there is no doubt that it will be of interest to all those concerned with fitting man into the general picture of hominid evolution. Indeed, the fact that it traverses a time-span rarely considered by those mainly studying the physical and cultural evolution of Pleistocene man, makes it an especially important contribution to the study of our evolutionary heritage.

To the general reader, Chapters 1, 2 and 10 will be particularly readable. Chapter 1, called *The Evolutionary Process and the Primates*, deals with the nature of the genetic and evolutionary relationships between different primate groups, which are principally determined by reference to the findings of comparative anatomy, the fossil record, and to embryology. Chapter 2, *A Preliminary Survey of the Primates in Space and Time*, is a concise but excellent general account of the primates as a whole, and in a way, Chapter 10, *The Evolutionary Radiations of the Primates*, is a continuation of this. The other sections of the book (3–9), consider in detail the dentition, skull, limbs, brain, special senses, digestive system, and reproductive system.

There are 152 very well-drawn illustrations, which clearly show that the author has been to some trouble to select simple but appropriate figures. A few of them could perhaps have benefited from a little more labelling. Considering the quality of the paper and binding, and the number of illustrations, the price of the book is surprisingly low, and shows that a first-class biological textbook can be produced for a reasonable price when the publishing world wishes.

To sum up, it may be said that this work is an excellent introduction to the variability and complexity of the primates and their evolution.

DON R. BROTHWELL

THE ANGLO-SAXONS. *By* D. M. WILSON. 8 × 6 *in. pp.* 231, 37 *figures*, 79 *plates and one map. London; Thames and Hudson Ltd.*, 1960. 30*s.*

This survey of Anglo-Saxon culture, seen, as the author carefully points out, through the eyes of an archaeologist, is a notable contribution to Anglo-Saxon studies. The manifold

problems of the period are magnificently set out in Mr Wilson's introductory chapter; his trenchant account of current endeavours to supplement and elucidate inadequate evidence, offset by the frightening backlog of work still undone or unpublished, should be obligatory reading for all prospective students of this ' cinderella of antiquarian studies '. It seems rather harsh, however, to censure Professor Baldwin Brown's arid doctrine for the scope of archaeology when the practical result of his labours, *The Arts in Early England*, is still, though published between 1903 and 1930, the latest compendium of Anglo-Saxon archaeological material. Today a syndicate would be needed to publish even the pagan material mouldering in museums. Since the works of Baldwin Brown and Leeds, major contributions to Anglo-Saxon archaeological studies have been scattered in specialist periodicals, and Mr Wilson's book is of great value in providing a comprehensive and up-to-date survey of the whole field.

It is impossible, at the moment, for an Anglo-Saxon archaeologist to provide a coherent account of the changes in material conditions for the six hundred odd years which constitute this period. The overbalance of grave goods in the earlier period, and dearth of published habitation sites from any period, means that single finds have to work hard; for example, the 6th-century pieces such as Benty Grange and Sutton Hoo helmets have to illustrate this object for four hundred years, and the late Hurbuck hoard all the agricultural implements for the period. Where a few facts from archaeological and literary sources widely scattered in time can be assembled, their composite picture can be just as misleading. Mr. Wilson has largely avoided these pitfalls in giving a brief account of pagan burials in his first chapter, and, in the second, noting the more important Christian antiquities, whilst objects from everyday life from the pagan period figure more largely in the chapter on ' the life of the people '. The problems of inadequate evidence are well illustrated by the author's discussion of dress; he states on p. 91: ' No fragment of ordinary Anglo-Saxon dress, of more than a few square inches in size survives. Our whole knowledge of dress has therefore to be built up on a few clothes found in Danish bogs, on pictorial evidence and on literary sources. The Anglo-Saxon literary sources provide us with precious little information and that of the most casual sort.' He concludes, however, p. 93, that men's dress ' remained more or less unaltered in form throughout the Anglo-Saxon period ', and women's dress ' changed but little '. It is unfortunate that evidence from the Danish bogs and pictorial evidence from Anglo-Saxon manuscripts of the 10th century and later are so widely separated in time, but something more could be made of scattered literary evidence from later glossaries and wills. Moreover, Alcuin's letters show that there were at least local changes of fashion in 8th-century Northumbria which were striking enough to provoke comment. Likewise, there is some literary evidence to show that there were changes and developments from the early examples Mr Wilson uses as illustrations for the Anglo-Saxon house; references to an upper storey—*upflor* or *soler*—and to thegns' houses with towers, indicate growing sophistication and complexity. It is, however, the task of the Anglo-Saxon linguist to compile such evidence for the archaeologist.

The fourth chapter of *The Anglo-Saxons* is devoted to ' weapons and warfare ', which is not, I feel, so much a comment on the martial temper of the age as on the material available for archaeological study. The less spectacular weapons such as the spear and shield have been in the past largely neglected. The author has given a valuable and full account of these, which will, it is hoped, stimulate the publication of a proper corpus of this material. I should have liked to see monastic life considered somewhere in the book since it was a full-time activity of so many people and one for which we have not only literary evidence but, in the Whitby excavation report, archaeological evidence also. However, though some specialists may feel that their own limited field has been rather neglected, all must be grate-

ful for this comprehensive and enlightening account of the whole field of Anglo-Saxon art and archaeology.

Some points of detail need comment. There are only two, not three, helmets found in Anglo-Saxon contexts: those from Benty Grange and Sutton Hoo. It is obvious from subsequent finds in Suffolk that the Leckhampton head-piece, now lost, was not Anglo-Saxon but British and was perhaps a priest's crown. On p. 120–1, the author stresses the Celtic use of the boar image, and on p. 141 states that ' The boar, which acts as the crest of the Benty Grange helmet, is in a direct line of descent from the large number of boars portrayed in a similar form by the Pre-Roman Celts.' It is true that the Benty Grange figure has certain Celtic characteristics which have never been properly explained (in fact the contents of the whole grave are unusual and need more work done on them), but the boar was equally a Germanic symbol, and if taken over from the Celts, this must have happened before the Anglo-Saxons came to England. In his summing up of the Sutton Hoo ship burial, p. 52, the author comes to the very probable conclusion that the king for whom the cenotaph was raised, was Aeðelhere, but there is not the strong evidence he suggests for the statement ' Aeðelhere was a pagan, a lapsed Christian '. Mr Wilson's knowledge of northern topography is rather ' off beat '; to describe 8th-century Hexham as ' not far from Durham ' is surely strange, and I am engaged in excavating not Jarrow but Monkwearmouth.

The text is very well illustrated with 79 plates and Mrs Wilson's magnificent line drawings, and includes such useful features as a chart of datable late Saxon ornamental metalwork.

ROSEMARY CRAMP

ROMAN AND NATIVE IN NORTH BRITAIN. *Edited by* I. A. RICHMOND. *London; Nelson*, 1958. *pp.* x and 161, *with* 8 *plates*, 8 *maps and* 6 *figures in text*. 18*s*.

It was perhaps inevitable that Roman frontier policy should be treated by Roman historians in the relatively narrow terms of Geography. The famous studies of Pelham and Fabricius express this point of view, which dominates even the excellent chapters in the *Cambridge Ancient History*. Rivers and mountains engage the attention with little reference to the men beyond the rivers, the men in the mountains. We must not blame our historians; their briefing must come from prehistoric archaeology, where the light is often dim. Nor is it all the prehistorian's fault, for prehistoric material in the relatively savage areas of a frontier does not always give the solid framework of dating in which a sober consideration of imperial motives can operate.

But recent work in northern Britain has done much to lighten our darkness; prehistoric archaeologist and Roman historian have each understood what the other needs. In this book we have the general archaeological picture painted for us by Stuart Piggott, who is followed by writers of separate chapters, Messrs Clark, Gillam, Steer and the editor, I. A. Richmond, each more or less taking a century of time, from the 1st A.D. to the 4th. Archaeology and History have made here a happy marriage, and a merit of the book is to hint that, as in a good marriage, the parties look like living even happier.

One is even moved to regret that the picture of happiness offered to us is not more diffused. Richmond virtually alone exceeds the terms of reference of the title in bringing Wales into the picture (I can remind the nodding Homer, indeed, that the *Seguntienses*, not the *Segontiaci*, appear in *Not. Dig. Occ.*, V, 213 and VII, 49); and the third division of the ' Highland Zone ', the Cornish peninsula, has not inspired even Richmond to break the rule. Yet a reviewer, inspired by Gillam's subtle analysis of ' dress-fastener ' distributions, might risk the guess that the Dumnonii were transported by Agricola to support his *limes*, like the Ubii on the Rhine, ' ut arcerent, non ut custodirentur '

(Tacitus, *Germania*, 28, 5). Cornish evidence from Tregear to Castle Chun seems not unfavourable. And it should be a fair general criticism that, while good use is made of Trajan's column, the authors' touch with Continental parallels is a trifle unsure. They might answer that the Continentals have not given them all the desired briefing. Let us hope that our colleagues on Rhine and Danube will read this book and produce theirs—for citation in the second edition of ours.

Piggott emphasizes the sociological contrasts of Fox's ' Highland ' and ' Lowland Zones ', warning us against extending to the former the doctrines of Little Woodbury and the Caburn. Perhaps we should not let the pendulum of our thinking swing too far against settled life and agriculture before the Romans came. The negative, that a hut complex (which is likely to have a quern in it) is not pre-Roman may be so hard to demonstrate. R. G. Collingwood, for instance, believed that Ewe Close was pre-Roman from the siting of the Roman road; and one would like an archaeologist of today to pronounce upon the bronze strip from Urswick Stone Walls, which Reginald Smith (*CW*², VII, 96–98) assigned to ' the first or even the second century before our era '. Moreover, it is one thing to notice wool production in the North, another to assert that it ' was encouraged under Imperial auspices '. We are in general more fond of saying than proving that economic advance in the Roman empire was prompted by official directives. And an old friend, the Imperial Estate in Cranbourne Chase, rubs shoulders with the reader again. But it is, after all, just a guess.

Clark gives the story of Flavian advance into the North and the setback at the end of Trajan's reign, obviously after the publication of Tacitus' *Histories* in A.D. 106 (Syme, 118), which left the Roman frontier more or less where archaeology puts it before Agricola arrived; and it is fitting that the contributor of so much material for this difficult period should be the commentator on it. Prehistoric archaeology is well used to point a contrast between hostility in the central and western lowlands, marked by ' slighting ' of forts, and the apparent friendliness of the Otadini, where he leads the succeeding authors of the book in stressing the significance of Traprain Law. We will agree with him that the picture is still rather blurred; but I wish that I could kill stone dead the notion that Agricola's *limes* was ' temporary '. There is simply no parallel on any Roman frontier for such a thing. The advance forward to conquer the whole island is the brand-new—and appropriate—policy of a new emperor, Domitian. Tacitus knew as well as any modern how to rob a man whom he did not like of his due.

Gillam handles the 2nd century with admirable skill and detailed knowledge (though I still wonder whether the redating of Milking Gap is ceramically sound). He makes a capital point of the sociological distinction between Brigantes, hardly Romanized in their housing but fully Romanized in their pottery and the men of Traprain Law who are not Romanized in either. The suggestion of a ' protected area ' north of the Antonine Wall in Fife is most attractively based on a distribution map (though I seem to remember that Birley (*Roman Britain and the Roman Army*, 87–103) had based the same suggestion on a Roman law case); and Gillam is perhaps a little too summary with his own theorizing on the re-establishment of Hadrian's Wall as a frontier by Calpurnius Agricola. Hartley's re-examination of pottery from Yorkshire forts is confirming Gillam's important article buried away in *Transactions of the Architectural and Archaeological Society of Durham and Northumberland*, X, 359–375.

Steer takes over for the 3rd century, again with original and instructive thinking, though he has to continue hedging over the periods of the Antonine Wall, leading us to reflect that we shall never completely master our Northern problem until we have them unassailably established. He follows, of course, the lines of thinking laid down by Richmond with

the exciting suggestion of Roman control maintained again as far north as Fife, with convincing reference to Dio, LXXVII, 13, 4. Moreover the supersession of hill-forts by native villages of Ewe Close type is offered as a function of 3rd-century policy, though precise chronology, as Steer knows, may be unsure.

Richmond takes the story into the Dark Ages, and one can wish that he had taken it further, into the world of Catraith and Arthuret, of Ninian and Kentigern. The rise of native kingdoms and the final melting of the frontier is put into admirably clear light; and Richmond's feel for structural evidence gives us in print the delightful point that in the last period of Hadrian's Wall the masonry—and the planning—are converting a fort into something like a ' native settlement '. My own suggestion of ' burgarii ' to live in it seems quite pleasing—at least to me!

We see the history of frontier strategy steadily adapted to changing sociological conditions, as we learn them from archaeology; and the over-all picture is convincing. Yet the temptation of pressing the material too hard, that has brought occasionally malignant comment on Romano-British studies, has not altogether been avoided. How, for instance, does Piggott know that ' Demetrius was attached to the staff of Northern Command Headquarters '? Or Steer that local native deities had been ' driven underground ' in the 2nd century. And I doubt if the other contributors emerge scatheless. Yet it is a fault on the right side, the fault of able men ' rejoicing in their strength '. And if there are ' Young Men ' in the team that Richmond leads and guides, that is all to the good. He himself, in a final paper on the ' Ancient Geographical Sources ', corrects his own youthful exuberance. It is a good omen for these young men.

C. E. STEVENS

BRITTANY. *By* P. R. GIOT (in collaboration with J. L'HELGOUACH and J. BRIARD). (Number Thirteen in the Ancient Peoples and Places series.) *London: Thames and Hudson*, 1960, 30*s*. *pp*. 221, 68 *text-figures*, 48 *plates*.

The publication of this volume in the *Ancient Peoples and Places* series is something of an event, for not only is it a notable contribution to a distinguished collection of books, but it represents the first regional archaeology of any district of France to be produced in accordance with modern standards of scholarship. We may perhaps be permitted to congratulate ourselves in this country that the work of Dr Giot and his collaborators should first appear in English.

The volume presents a lucid and ordered account of Breton archaeology up to the Roman conquest, with a short postscript on the Dark Ages—Brittany before the Bretons, in fact. It deals with a region of France where the field monuments of prehistoric antiquity occur in profusion and in often dramatic form; perhaps nowhere else in the country can the intelligent visitor find a comparable concentration of sites which arrest the attention even of those who are not archaeologists. As a guide in the field and in the museums of Brittany this book provides the traveller with the background he needs to understand and appreciate the significance of what he sees.

It is an archaeology in modern terms, setting out the Breton material in its relation to what cultures or assemblages can be regarded as comparable. Much space is naturally devoted to the Neolithic and Early Metal Age cultures and their megalithic monuments. The authors envisage a short Primary Neolithic with C-14 dates of *c*. 3000 B.C., followed by a Chalcolithic of bell-beaker origin, itself running parallel with a continuing Neolithic tradition, which reasserts itself as a Late Neolithic which persists into and beyond the full Bronze Age of the Breton tumulus-graves. The picture, in fact, is of a long enduring Neolithic tradition, with intrusive cultural elements implied by the bell-beakers, their central

European ' reflux ' marked by the Cord-Zone beakers, and the culture of the tumulus-graves, again mainly Central European in inspiration but with probable Wessex contributions from a relatively early stage. Radio-carbon dates from the Low Countries and Germany show the Cord-Zone beakers of the ' reflux ' movement to have been in manufacture around 2000 B.C., and the second phase of the Breton tumulus-graves has also a C-14 date, this time of *c.* 1350 B.C.

Such circumstances are of course comparable in many respects to those of the British Isles during the same period and it is not surprising that evidence of continued contacts between the two areas exists from the earlier Neolithic onwards. The relationships between our Wessex culture and that of the Breton tumulus-graves need a fresh assessment; the bronze dagger from Kersaint-Plabennec seemed to the reviewer when he examined the original to be a likely British export from the second (Camerton) phase of the Wessex Culture.

The later Armorican Bronze Age is represented almost wholly by hoards of bronzes which may total up to 1000 objects or even more, and the enormous deposits of Late Bronze Age socketed axes are well known; the authors make a reasoned estimate of 50 metric tons of metal being involved in the total of such hoards.

With the Armorican Iron Age cultures English readers enter in a world made to some degree familiar to them by the work of Sir Mortimer Wheeler and his collaborators on the hill forts, but to this the authors add a discussion, with most interesting distribution maps, of other features including the stelae, of which the decorated examples (such as that at Kermaria) may be related to Irish monuments such as Turoe and Castle Strange. A final brief postscript takes us from protohistory into history, and the British emigration of the 5th century A.D.

The book has the abundant illustration we have come to expect in the series, but the drawing of the important distribution maps is a little uneven in quality.

STUART PIGGOTT

ROMAN OSTIA. *By* RUSSELL MEIGGS. *Oxford: Clarendon Press*, 1960. *pp.* xviii + 598, *with* 32 *text-figures and* 41 *half-tone plates.* 84*s.*

This magnificent and outstandingly important work, the fruit of more than thirty years of research in libraries, in museums, and, above all, in the field, has been awaited with the highest expectations, all of which have now been abundantly fulfilled. Most generous is the fare provided, consisting of upwards of five hundred pages of text, a model of scholarship and written in a wholly pleasurable style—lucid, vivid, graceful, and enlivened all along by a spicy sense of humour; of a hundred more ' meaty ' pages of notes, appendices, addenda, bibliography, and index; of numerous line-drawn plans; and of a splendid series of photographic plates in which all important aspects of the Ostian scene are represented. And it may be said at once that the heroine of the book (Mr Meiggs most properly makes Ostia feminine) is eminently worthy of the pains that have here been lavished on her. Few sites throughout the length and breadth of the Roman Empire can have yielded so imposing a body of information that is of illuminating interest and significance, not only for local history, but also for the history of the mighty organism which this city served. For in contrast to provincial Pompeii, whose life-thread was abruptly severed in A.D. 79, Ostia's story runs parallel to virtually the whole of her imperial neighbour's, from the latter's rise to its decline.

Roman Ostia is an object-lesson in the writing of ancient history, a science that essentially depends upon the co-ordination and critical analysis of every type of available material in this case ranging from passages in Greek and Latin literature and first-class epigraphic

texts to the shapes and sizes of blocks of stone and bricks and the colours and consistencies of mortar. In every sphere the author is authoritative. But for Ostia the vital evidence is, of course, archaeological; and it is undoubtedly his mastery and penetrating understanding of the excavators' findings which stimulates most powerfully the reader's admiration. Particularly noteworthy also is his stern refusal to advance one inch beyond the limits of established fact set by text or monument, combined with a dexterous handling of the art of reasonable inference from facts and a welcome rejection of unnecessary or excessive scepticism.

After two introductory chapters on the nature of the evidence and on Ostia *vis-à-vis* Pompeii, the book falls into three main parts. Chapters 3 to 6 deal with the history of the site, that is, of Ostia-town and Portus; Chapters 7 and 8 with its topography; and Chapters 9 to 18 with all the varied facets of its people's life. In the tracing of every side of Ostia's development, social, economic, and political, the major role is played consistently by the remains of her buildings and engineering works, most of all by the very substantial relics that have been unearthed of the residences of her citizens. This fact involves the writer in some probably inevitable repetitions. Thus the themes of parts of Chapter 4 (' The Imperial Harbours and Prosperity ') and Chapter 5 (' The Decline of Ostia ') are reiterated in Chapter 7 (' Town Plan and Town Development ') and again in Chapter 12 (' The Houses '). But each time that these topics reappear they are presented with an ever greater and more fascinating wealth of detail. And it is Mr Meiggs's complete at-homeness in every corner of the site, the outcome of countless visits to, and of not a few prolonged stays among, the ruins of the city and its ports, that stirs our imaginations and brings to life for us everything of which he writes—of the town-council and the magistrates, of the workers and employers, their families, their 2nd-century homes in lofty blocks of flats, and their avocations, of the guilds, the religions, and the recreations of the citizens, of art, and finally of cemeteries.

The closing chapter, that on tombs, is naturally the most controversial section of the book. For the views on death and after-life that were current in the pagan world of the last two centuries before, and first four centuries after, the opening of our era—a subject of perennial human interest—are quite tantalizingly inexplicit. Something, however, can be gleaned by piecing together the fragmentary evidence and by making cautious and tentative deductions from it; and in this connection a few reflections may be offered here.

First of all, ' a change in fashion and feeling ' as an explanation of the problem of the supersession of cremation by inhumation, which began about the turn of the 1st and 2nd centuries A.D., leaves us very much where we were (p. 464). A widespread change in fashion in such a matter as burial-custom implies a change of view-point, as in modern times cremation is favoured because it is regarded as more hygienic and more economical of space than inhumation. Feelings in this context are inspired by ideas—the idea of the body as intrinsically worthy of respect, in the case of the preference for inhumation found among Jews and Christians. But since neither Jewish or Christian epitaphs normally state that well-known preference in dogmatic terms, we should not expect to read such statements in the pagan epitaphs of the Roman Empire—nor in pagan literature, in as much as the mysteries, that were increasingly affecting the religious climate of the time, have left no comprehensive written body of doctrine. A spiritual (and it need not have been a very deeply spiritual) shift of emphasis remains a reasonable possibility and provides, on the whole, the most likely explanation of the change of rite. Practical advantages were clearly not considered in the 2nd and 3rd centuries.

Secondly, is it not possible that the author is a trifle overconfident in asserting that the daily-life scenes on sepulchral monuments at Ostia were purely commemorative (p. 470),

and that such sculpture-groups as the riding child (pl. 36, (*b*)) and the Pan and Satyr when found in tombs (in the Isola Sacra cemetery) were simply ornamental and had no religious or funerary significance whatsoever (pp. 469–70) ? A man's wish to be remembered by what he did in this life may well have been the paramount consideration that influenced his choice of theme. But this need not exclude the further notion that work well carried out on earth reaps a reward hereafter; and indeed such scenes do not always stand alone but are frequently combined in the same tomb or on the same monument with mythological scenes and motives that quite obviously allude symbolically to death and after-life. The internal decoration of the Tomb of the Valerii in the Vatican necropolis is a case in point; and ' professional ' episodes are by no means unknown in early Christian sepulchral iconography. Again, the ' genre ' group of the boy on horseback, attended by a slave, provisioned with ducks and a wine-skin, and, incidentally wearing not an ordinary tunic, but a beast (leopard ?) skin, could have been interpreted as an allegory of the soul's last journey to the other world,[1] while the group of Pan and Satyr has its place in the Bacchic-paradise repertory, so familiar in Roman-age tomb-art of every type. In the Roman mind light-heartedness and ' other-wordly ' thoughts were far from being incompatible, as many carved sarcophagi make plain to us.

Pace the author (p. x), a single folding plan, or a series of sectional plans, on which every monument in the text had been inserted, would have been extremely welcome.

The spade has undoubtedly much still to reveal at Roman Ostia. But the time was ripe for a critical assessment, on a monumental scale, of what it has so far disclosed. And although there may be some surprises yet in store for us, it is most unlikely that they would force us to revise, to any significant degree, the picture of the general pattern of Ostian life and history which Mr Meiggs has painted for us so superbly.

J. M. C. Toynbee

[1] Cf. *Papers of the British School at Rome*, xv, 1939, 27–32.

TROUVAILLES DU CHAMP D'URNES ET DES TOMBELLES HALLSTATTIENNES DE COURT-SAINT-ETIENNE. *By* M. E. Marien. *Monographies d'Archéologie Nationale*, 1. *Brussels*, 1958. *pp.* 271, 56 *figures including* 7 *maps*, 1 *plate*. 280 *Belgian francs*.

This volume is the first issue of the *Monographies d'Archéologie Nationale*, and is devoted to the important necropolis of Urnfield and Hallstatt date at Court-Saint-Etienne, in the Brabant area of Belgium. No new excavations are reported here, but most of the detailed information must be new for many archaeologists; the collection, illustration and synthesis of the various excavations dating from the late 18th to the early 20th century is mainly culled from obscure publications.

The work is divided into two parts, the first dealing with the site and the excavations. In this, the author has adopted a chronological system of presentation, based on the date of discovery; this, of course, is not completely satisfactory, because of the difficulties of obtaining a complete picture of the grave goods for any one particular period of burials, and is not entirely rectified in the summary. Yet the difficulties of arranging the finds geographically or by their prehistoric chronology must have been insurmountable, in view of the inadequate reports of the early excavations and plunderings. Each object is numbered, and illustrated where extant, and the *Table de Concordance* provides a valuable guide in checking comparable objects, although its usefulness would be increased if the illustration figure was also included. The second part of the book summarizes the finds and attempts to place them in their proper chronological position. A brief collection, in tabular form, of the principal types of grave goods would have been useful here to aid in the location of the

comparative notes appearing under the description of individual objects in the first part of the book. Yet the summary of the evidence for burial rites, and the general discussion of European contacts, are admirable and document the thesis advanced by the author in 1954, that Brabant and Bavaria were closely related during the Hallstatt Iron Age.

The earliest Hallstatt traces at Court-Saint-Etienne, in the Haute-Dyle region of Brabant, are cremation burials in urns, dated both by the accompanying bronze articles as well as by the pottery to late Hallstatt A and Hallstatt B, with an initial date in the early 8th century B.C. The pottery shows connections with various Urnfield elements in the Upper Rhine, Baden and western Switzerland. Upon these Urnfield people were imposed, as conquerors, groups of horse-riding warriors with Hallstatt swords of bronze and iron. This invasion is dated to the mid-7th century, and it is unfortunate that the nature of the evidence available does not throw light upon the interrelations, if any, between the Urnfield and warrior cemeteries. The social position of the new arrivals probably was similar to that enjoyed by the Wessex chieftains of the Early Bronze Age, and points to the survival of the older Urnfield element throughout the period of dominance by the Hallstatt warriors. In any case, following the demise of these Hallstatt people, with their distinctive funerary tradition of tumulus burial, urned cremations in flat graves again appear and last into Hallstatt D. The Hallstatt C warriors buried their dead in barrows raised over the cremation deposit, and it is their distinctive grave goods which form the main study in the book. This is based on Kossack's recent publication of horse-harness graves in Bavaria,[1] in which a large series of graves containing ' horsey ' elements, from a restricted area to the west of Regensburg and on both sides of the Danube, are discussed in detail and assigned to the Mindelheim horizon of Hallstatt C1. Dvořák's work on the cart-burials in Bohemia has also been drawn on for comparative purposes,[2] but the important connections appear between Bavaria and Brabant, with a curious lack of intervening finds. These connections include distinctive objects of horse-harness, as well as a common funeral rite, suggesting an initial date for the warrior graves in Brabant of about 700 B.C. Yet there is not an absolute identity of all pieces of horse gear, and the pottery of the two areas is not similar. In addition, some inhumations are known from this period in Bavaria. Possibly the pottery differences may be explained by the influence of the native Urnfield element in Haute-Dyle, an argument for the survival of of the flat grave tradition during Hallstatt C1, but the total absence of habitation sites of either Hallstatt B or C known in the region precludes any decision. A later incursion, during Hallstatt C2, when the antenna sword had replaced the long Hallstatt sword, is evidenced by Tombelle 3 at La Quenique. Other grave goods here include a specialized form of bronze socketed axe not unknown in Britain or Ireland. This tumulus is dated to about 550 B.C., and is followed by the revival of flat grave cremation burials.

From a purely British point of view, the most important grave at Court is Tombelle A, which has remarkably close analogies with the Llyn Fawr hoard, including iron swords, bit side-pieces and the somewhat enigmatical yoke attachments (' Jochschnallen '). The ' winged chape ' of Llyn Fawr has its only match here, aside from a fragment in Tombelle Z, and the author produces a strong argument to show that its real use was as a bit side-piece. It is indeed true that the functional form is completely different from a true winged chape, and a superficial resemblance may be explained as a community of decorative idea, yet its explanation as part of a horse-bit is not entirely convincing. The strain imposed on the leather attachments via the neck harness surely would necessitate a firmer method of fastening leather to such a piece. Although the analogies with simpler objects, found in pairs with bits, at Lengenfeld, seems reasonable, it still seems difficult to reconcile the

[1] *Jahrbuch R-GZM*, I (1954), 111.
[2] *Praehistorica*, I (Prague), 1938.

suggested position with the two-way strain placed upon the point of attachment.

It is important to realize that the few finds of Hallstatt harness gear in Belgium (Court as well as Morimonie, Oss and Boshoven) are not matched anywhere in northern France or western Germany, and it is only in Bavaria that comparable objects are found in quantity. A mere trading exchange between Brabant and Bavaria seems to be excluded, as the objects at Court are not absolutely identical to those from Lengenfeld and other more typical Bavarian sites. A suggestion of direct contact, however, between the two areas needs more evidence than mere similarity in metal types, and thus the author cannot admit a point-to-point folk movement. The Bavarian gear itself has varying sources of inspiration, and here the connections with the Bohemian graves have perhaps been under-emphasized. Several important components of the Bavarian harness types are seen in Bohemia, including similar bit types, ' Jochschnallen ', strapped bosses (e.g. no. 128b in fig. 9, not fig 10), and dished mountings not dissimilar to the Horsehope cart pieces. Nevertheless, it is clear that Bavaria must have provided the major impetus which resulted in the establishment of a warrior-based community in Brabant, with this area and the related Llyn Fawr find peripheral to a great cultural tradition of cremation burial in barrows with elements of horse harness as grave goods. The connections with cart burials and cart material, seen in Bohemia and Britain, and of the same date, remain to be established.

The author deserves our commendation for a scholarly and highly interesting piece of research, and for its clear and attractive presentation.

J. M. Coles

SURVEYING FOR ARCHAEOLOGISTS. *By* D. H. Fryer. *University of Durham*, 1960. *pp.* 36, 50 *figures*, 1 *plate*, 4*to. Obtainable from the Museum of Antiquities, King's College, Newcastle-on-Tyne*, 1. 2*s.* 10*d. post free.*

This brief manual, reproduced from typescript, is based on the lecture notes for the course in surveying given by the author at the annual Training School in Roman Archaeology at Corbridge. As a guide to the surveying of masonry buildings on excavated sites it will serve very well, but it is that and nothing more. The survey of earthworks, or of irregular excavated structures, and the use of simple but adequate instruments such as the prismatic compass and the Abney clinometer, which are the stand-by of the single-handed field-worker, are almost wholly ignored.

There is certainly a need for a practical manual of archaeological surveying; but it will have to be written by someone whose acquaintance with archaeological sites of all kinds is far wider than that of the present author.

R. J. C. Atkinson

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